Groundwater Monitoring and Progress Report March 2006 Sampling Event

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Prepared for:

Sierra Pacific Industries

May 2006

Project No. 9329.000, Task 23/32

Geomatrix

Geomatrix

May 5, 2006
Project 9329.000

Executive Officer
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Attention: Kasey Ashley

Subject: Groundwater Monitoring and Progress Report
March 2006 Sampling Event
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Dear Ms. Ashley:

As requested by Sierra Pacific Industries, we have enclosed a copy of the subject report.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Mike Keim
Senior Environmental Scientist

Edward P. Conti, CEG, CHG
Principal Geologist

RAS/EPC/abr
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Enclosure

cc: Bob Ellery, Sierra Pacific Industries (with enclosure)
Gordie Amos, Sierra Pacific Industries (with enclosure)
Fred Evenson, Law Offices of Frederic Evenson (with enclosure)
Jim Lamport, Ecological Rights Foundation (with enclosure)

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Groundwater Monitoring and Progress Report
March 2006 Sampling Event

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Prepared for:

Sierra Pacific Industries

Prepared by:

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May 2006

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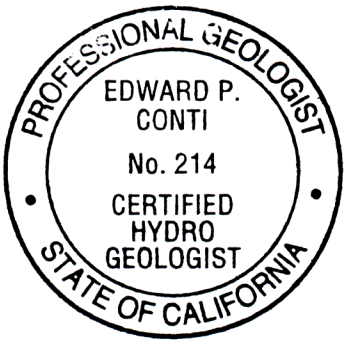
PROFESSIONAL CERTIFICATION

GROUNDWATER MONITORING AND PROGRESS REPORT
MARCH 2006 SAMPLING EVENT
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

May 5, 2006
Project No. 9329.000, Task 23/32

This report was prepared by Geomatrix Consultants, Inc., under the professional supervision of Edward P. Conti. The findings, recommendations, specifications and/or professional opinions presented in this report were prepared in accordance with generally accepted professional hydrogeologic practice, and within the scope of the project. There is no other warranty, either express or implied.



Edward P. Conti, CEG, CHG
Principal Geologist

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MARCH 2006 SAMPLING EVENT

Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

1.0 INTRODUCTION

This report presents the methods and results of the March 2006 groundwater monitoring event and a progress report for remediation pilot study activities at the Sierra Pacific Industries (SPI) Arcata Division Sawmill located in Arcata, California (the site, Figure 1). Groundwater monitoring in the area of the sawmill was performed in accordance with Monitoring and Reporting Program (MRP) No. R1-2003-0127, which was revised and reissued by the California Regional Water Quality Control Board, North Coast Region (RWQCB) on

March 4, 2005. Groundwater monitoring in the area of the truck shop was performed in accordance with the *Work Plan for Installation of Monitoring Wells and Piezometer* (Work Plan; Geomatrix, 2005a), which was approved by the RWQCB on July 14, 2005. Groundwater monitoring associated with the remediation pilot study was performed in accordance with the *Pilot Study Work Plan for Implementation of Proposed Remedial Action* (Geomatrix, 2004b).

Geomatrix Consultants, Inc. (Geomatrix), has prepared this report on behalf of SPI to provide the status of groundwater monitoring and the results of the remediation pilot study activities conducted at the site.

This report is organized as follows: Site Background, including a discussion of site history, subsurface lithology, and hydrogeology (Section 2.0); March 2006 Groundwater Monitoring (Section 3.0); Pilot Study Progress (Section 4.0); Wastewater Disposal (Section 5.0); Future Monitoring and Sampling Schedule (Section 6.0); and References (Section 7.0).

2.0 SITE BACKGROUND

This section provides background information regarding the site setting and history and discusses subsurface conditions at the site, including lithology and hydrogeology. Subsurface lithologic and hydrogeologic conditions at the site were previously investigated and described by EnviroNet Consulting (EnviroNet, 2002a).

2.1 HISTORY

The approximately 68-acre site is located on the Samoa Peninsula, along the northern shoreline of Humboldt Bay and approximately 4 miles west of the town of Arcata, California. The site is bounded to the east by the Mad River Slough, to the northwest by an old railroad grade, and to the south by New Navy Base Road and mud flats of Humboldt Bay (Figure 1).

The site is currently an active sawmill; features are shown on Figure 2. The sawmill has operated at the site since approximately 1950. Prior to construction of the mill facilities, the site consisted of undeveloped sand dunes and mud flats. During construction of mill facilities in the 1950s and 1960s, portions of the Mad River Slough on the eastern, northern, and southern sides of the site were filled. The current mill facility consists of an administrative building, a main sawmill building, numerous wood-processing buildings, log storage areas, milled lumber storage areas, and loading/unloading areas. A 140-foot-deep water supply well (Feature 48 on Figure 2) provides water for log sprinkling. An older, shallow water supply well is located adjacent to the 140-foot well, but has not been used since it began to produce sand.

Wood surface protection activities historically conducted at the site included the use of an anti-stain solution containing chlorinated phenols, including pentachlorophenol (PCP) and tetrachlorophenol, to control sap stain and mold on a small amount of milled lumber. The anti-stain solution was applied in an aboveground dip tank located in the middle of the former green chain, which was located immediately south of the eastern end of the current sorter building (Feature 49 on Figure 2). Use of the solution containing chlorinated phenols in the former green chain area of the site reportedly commenced in the early to mid-1960s and was discontinued in 1985 (EnviroNet, 2002b). At the direction of the RWQCB, SPI stopped purchasing anti-stain solution containing chlorinated phenols in 1985 and commenced a process of relocating the remaining solution containing chlorinated phenols to a new dip tank facility for recycling (MFG, 2003a). Due to the difficulty of disposing of the old solution containing chlorinated phenols, the remaining solution from the old dip tank was mixed with a new anti-stain solution that did not contain chlorinated phenols at the new dip tank facility (Feature 21 on Figure 2). Recycling of the solution containing chlorinated phenols in the new dip tank continued until 1987, at which time the drip basin adjacent to the old dip tank was cleaned out, filled with sand, and capped with 3 to 4 inches of concrete (MFG, 2003a). The new dip tank has been cleaned three times since 1987.

The potential effects of wood surface protection activities on soil and groundwater have been investigated to depths of approximately 20 feet below ground surface (bgs). In 2002, investigation activities included the installation of 19 monitoring wells at the site: 15 monitoring wells (MW-1 through MW-12, MW-14, MW-17, and MW-18) were constructed to monitor shallow groundwater between depths of approximately 2 and 8 feet bgs, and four monitoring wells (MW-13D, MW-15D, MW-16D, and MW-19D) were constructed to monitor deeper groundwater between depths of approximately 15 and 20 feet bgs (EnviroNet, 2003). Two additional monitoring wells (MW-20 and MW-21) were installed in January and February 2004 to monitor shallow groundwater (Geomatrix, 2004a). Monitoring well locations are illustrated on Figure 3. Monitoring well construction details are included in Table 1.

For an unknown period of time ending in the 1970s, an underground storage tank (UST) was used to store waste oil from vehicle maintenance activities (MFG, 2003b). The UST was located behind (north of) the truck shop building (Figure 4) and buried at a depth so that the waste oil would flow by gravity from drip pans inside the truck shop. Based on the personal accounts of employees from that period, use of the tank was discontinued during the 1970s, but the employees were not certain as to whether the UST had been removed. In April 2003, the UST was located and removed. In 2005, two monitoring wells (MW-22 and MW-23) and two piezometers (P-24 and P-25) were installed to monitor shallow groundwater in the truck shop area (Geomatrix, 2006). The monitoring well and piezometer locations are illustrated on Figure 4. Monitoring well and piezometer construction details are included in Table 1.

2.2 LITHOLOGY

The site is located adjacent to the Mad River Slough near the northern shoreline of Humboldt Bay. The eastern, northern, and southern portions of the site were filled in the 1950s and 1960s.

In the sawmill area, subsurface lithology within the shallow zone (less than 8 feet bgs) is predominantly fine- to medium-grained sand of apparent sand dune origin. Wood and fill material was locally observed in this shallow zone during activities such as the installation of monitoring wells MW-13D and MW-15D. Soil beneath the fine- to medium-grained sand consisted of more sand and locally of fine-grained material, classified as "bay mud." The fine-grained material was encountered during the installation of monitoring wells MW-3, MW-10, MW-15D, MW-16D, and MW-17 at depths of approximately 6 to 8 feet bgs and during the installation of monitoring well MW-15 at a depth of approximately 15 feet bgs. Soil described during the installation of a water supply well at the site (Feature 48 on Figure 2) suggests that

subsurface soil between the ground surface and 140 feet bgs is predominately composed of sand (EnviroNet, 2001).

In the truck shop area, the subsurface lithology to 6 to 7.5 feet bgs consists generally of fine- to medium-grained sand that has been characterized as being of sand dune origin with varying amounts of clay, silt and gravel (MFG, 2003b and Geomatrix 2004). In general, silt was encountered beneath the sand layer. In two borings, WO-1 and WO-7, the sand extended to the total depth of exploration, 12 feet bgs. In four borings (WO-4, -5, -6 and -8), up to 1.0 foot of peat was present beneath the sand and above the silt. In the boring for MW-22, a 1.5 foot thick clay layer was present from depths of 6 to 7.5 feet bgs. Non-native materials (aggregate base beneath asphalt, wood debris, and/or other non-native fill soils) were encountered in the borings for MW-22, MW-23, P-24 and P-25 (Geomatrix, 2006). The non-native materials were encountered in these borings from the ground surface to depths of to 1.0 feet bgs (MW-23) to 9.0 feet bgs (P-25).

2.3 HYDROGEOLOGY

The groundwater surface measured in 23 monitoring wells and two piezometers has ranged between approximately 0.5 and 5 feet bgs in the 21 shallow wells and piezometers (i.e., screened from 2 to 8 feet bgs, 2.5 to 9 feet bgs, or 3.5 to 9 feet bgs) and between approximately 4 and 6 feet bgs in the four deeper wells (i.e., screened from 15 to 20 feet bgs). In the eastern (sawmill) portion of the site, groundwater flow generally is to the east, toward the Mad River Slough (MFG and Geomatrix, 2003). In the southwestern (truck shop) portion of the site, groundwater flows to the south-southeast, toward Humboldt Bay (Geomatrix, 2006).

Tidal fluctuations in the Mad River Slough and nearby Humboldt Bay influence groundwater levels at the site in the vicinity of the slough. A 2002 tidal influence study conducted at the site suggested that tidal effects become negligible at distances greater than 100 feet from the slough shore (EnviroNet, 2003).

3.0 MARCH 2006 GROUNDWATER MONITORING

This section presents field and laboratory methods and results of groundwater monitoring activities conducted during this period in accordance with the MRP and the Work Plan.

3.1 FIELD METHODS

On March 22, 2006, depth to water was measured in all sawmill-area site monitoring wells (MW-1 through MW-21, Figure 3) and at a monitoring point in the Mad River Slough using an

electronic sounder (Table 2). Water levels were measured in the wells on the first day of sampling, before conducting groundwater sampling activities. Monitoring wells were gauged in sequence from lowest expected concentrations of constituents of concern (first) to highest expected concentrations (last), based on laboratory analytical results from the previous sampling event. On March 23, 2006, depth to water was measured in all truck shop-area site monitoring wells and piezometers (MW-22, MW-23, P-24, and P-25, Figure 4) using an electronic sounder (Table 2). On both days, field personnel cleaned the meter used to measure the groundwater surface before use at each location. The equipment was washed in an Alconox® detergent solution and then rinsed with distilled water.

Fourteen monitoring wells (MW-1, MW-2, MW-6 through MW-9, MW-13D, MW-14, MW-15D, MW-16D, MW-20, MW-21, MW-22, and MW-23) were purged and sampled on March 22, 23, and 24, 2006, in accordance with the site MRP and truck shop monitoring well installation work plan. For wells MW-6, MW-8, MW-9, MW-13D, MW-15D, MW-16D, MW-22, and MW-23, field personnel used dedicated, disposable Teflon® bailers to remove standing water in the well casing. For monitoring wells MW-1, MW-2, MW-7, MW-14, MW-20, and MW-21, field personnel used a peristaltic pump and dedicated tubing and low-flow purging/sampling techniques in conjunction with pilot study activities (Section 4.0). Field personnel measured and recorded temperature, pH, specific conductance, and total dissolved solids (TDS, for sawmill wells only) on field sampling records during groundwater purging using a bailer. For bailer-purged wells, the purging activities were ceased when a minimum of three well casing volumes of water had been removed and water quality parameters had stabilized to within 10 percent of specific conductance, 0.05 pH units for pH, and 1 degree Celsius for temperature. For peristaltic pump-purged wells, the purging activities were ceased when the water quality parameters stabilized to within approximately 10 percent for specific conductance, oxidation-reduction potential, and dissolved oxygen; 0.05 pH units for pH; and 1 degree Celsius for temperature. Copies of the field records for groundwater monitoring and sampling activities are included in Appendix A.

After purging, groundwater samples were collected using the dedicated Teflon® bailers or, for monitoring wells included in the pilot study program, a peristaltic pump and dedicated tubing. A field sample of groundwater was monitored for temperature, pH, specific conductance, and TDS (for sawmill-area wells only) just prior to collecting the groundwater sample to record the water quality parameters of the groundwater being sampled. These field parameters are summarized in Table 3. Historical laboratory analytical results for TDS also are shown in this table.

Groundwater collected from each of the 12 sawmill-area monitoring wells was placed in a 125-milliliter (ml) glass vial that was sealed with a Teflon®-lined screw cap. Groundwater collected from each of the two truck shop-area monitoring wells was placed in three 1-liter amber bottles and three 40-ml vials preserved with hydrochloric acid and sealed with screw caps with Teflon®-lined septa. After filling, the vials and bottles were labeled and placed in an ice-cooled, insulated chest for transport to the laboratory for analysis. Chain-of-custody records were completed for the samples and accompanied the samples until received by the laboratory. Copies of the chain-of-custody records for the groundwater samples are included in Appendix B.

An additional groundwater sample was collected from monitoring well MW-21 and submitted to the laboratory as a blind duplicate sample, labeled MW-A-200603. This sample was placed in an additional 125-ml glass vial sealed with a Teflon®-lined screw cap and sent to the laboratory as described above.

3.2 LABORATORY METHODS

Groundwater samples collected from monitoring wells MW-1, MW-2, MW-6 through MW-9, MW-13D through MW-16D, MW-20, and MW-21 located in the sawmill area were analyzed at Alpha Analytical Laboratories, Inc. (Alpha), of Ukiah, California, a California Department of Health Services- certified analytical laboratory. These samples were analyzed for the chlorinated phenols (including PCP; 2,3,5,6-tetrachlorophenol; 2,3,4,6-tetrachlorophenol; 2,3,4,5-tetrachlorophenol; and, 2,4,6-trichlorophenol) in accordance with the Canadian Pulp method.

Groundwater samples collected from monitoring wells MW-22 and MW-23 located in the trench shop area were analyzed by Friedman & Bruya, Inc. (Friedman & Bruya) of Seattle, Washington, a California Department of Health Services-certified analytical laboratory. These samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, and TPH as motor oil by EPA Method 8015M and for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8021B. A silica gel preparation procedure, based on EPA Method 3630B, was performed on the sample extracts prior to the TPH as diesel and TPH as motor oil analyses.

3.3 LABORATORY DATA QUALITY REVIEW

Geomatrix reviewed the quality of laboratory data generated for the groundwater sampling as discussed in Appendix C. Based on the procedures and data quality review, the analytical data quality is satisfactory and the sample results appear to be representative.

3.4 RESULTS OF GROUNDWATER MONITORING

Monitoring and sampling results from site wells and piezometers include groundwater elevation measurements, field measurements of water quality parameters, and laboratory analysis of groundwater samples. Groundwater elevation data provide information on subsurface hydraulic conditions, discussed below as occurrence and movement of groundwater. Groundwater quality is evaluated based on the laboratory analysis of chlorinated phenols, TPH as gasoline, TPH as diesel, TPH as motor oil, and BTEX. The results are presented below.

3.4.1 Occurrence and Movement of Groundwater

The groundwater surface measured in the sawmill-area shallow monitoring wells (i.e., screened from approximately 2 to 8 feet bgs) ranged from 0.42 to 5.27 feet below the measuring point, and groundwater elevations ranged from 4.34 to 9.79 feet above mean sea level relative to the North American Vertical Datum of 1988. Groundwater elevation data from these monitoring wells indicate that the direction of shallow groundwater flow is generally to the east (Figure 5). The magnitude of the lateral hydraulic gradient ranges from approximately 0.003 foot/foot in the former green chain vicinity to approximately 0.03 foot/foot beneath the sawmill and maintenance buildings. Groundwater elevations within 100 feet of the Mad River Slough shoreline are subject to tidal fluctuations (EnviroNet, 2003), consequently, the water level elevation in well MW-1 was not used to evaluate the lateral hydraulic gradient of shallow groundwater.

The groundwater surface measured in deep monitoring wells at the site (i.e., screened from approximately 15 to 20 feet bgs) ranged from 3.76 to 5.18 feet below the measuring point, and groundwater elevations ranged from 5.98 to 6.80 feet above mean sea level, relative to the North American Vertical Datum of 1988. Groundwater elevation data from these monitoring wells indicate that the direction of deep groundwater flow is generally to the east (Figure 6). The magnitude of the lateral hydraulic gradient is approximately 0.004 foot/foot.

The groundwater surface measured in the truck shop-area shallow monitoring wells and piezometers ranged from 2.69 to 4.38 feet below the measuring point, and groundwater elevations ranged from 10.74 to 12.64 feet above mean sea level, relative to the North

American Vertical Datum of 1988. Groundwater elevation data from these monitoring wells indicate that the direction of shallow groundwater flow is generally to the southeast (Figure 7). The magnitude of the lateral hydraulic gradient is approximately 0.03 foot/foot.

3.4.2 Groundwater Analytical Results

Twelve sawmill-area groundwater monitoring wells were sampled during this period in accordance with the MRP (MW-1, MW-2, MW-6 through MW-9, MW-13D, MW-14, MW-15D, MW-16D, MW-20, and MW-21). Copies of the laboratory analytical report and sample chain-of-custody records are included in Appendix B. The results for the chlorinated phenol analyses are summarized in Table 4. These results also are illustrated on Figure 8 (shallow groundwater).

PCP and tetrachlorophenols were detected in groundwater samples from 2 of the 12 monitoring wells (MW-7 and MW-21; Table 4), and 2,4,6-trichlorophenol was detected in one of the wells (MW-21). The detected concentrations of PCP using the Canadian Pulp Method were 1,900 micrograms per liter (µg/L) in the sample from MW-7 and 13,000 µg/L and 14,000 µg/L in the samples collected from monitoring well MW-21 (primary and blind duplicate samples, respectively). The detected concentrations of PCP using EPA Method 8270, conducted in conjunction with the pilot study, were 1,200 µg/L in the sample from MW-7 and 7,700 and 8,000 µg/L in the samples collected from monitoring well MW-21 (primary and blind duplicate samples, respectively). The pilot study results are discussed below in Section 4.0. Chlorinated phenols were not detected at or above the laboratory reporting limits in the samples collected from monitoring wells MW-1, MW-2, MW-6, MW-8, MW-9, MW-13D, MW-14, MW-15D, MW-16D, and MW-20.

Two truck shop-area groundwater monitoring wells (MW-22 and MW-23) were sampled during this period. Copies of the laboratory analytical reports and sample chain-of-custody record are included in Appendix B. The results for the TPH as gasoline, TPH as diesel, TPH as motor oil, and BTEX analyses are summarized in Table 5.

In the sample collected from MW-22, TPH as gasoline was detected at a concentration of 66 µg/L, and toluene was detected at a concentration of 16 µg/L. Benzene, ethylbenzene, xylene, TPH as diesel and TPH as motor oil were not detected at or above the laboratory method reporting limit in the sample collected from MW-22. In the sample collected from monitoring well MW-23, TPH as gasoline, benzene, toluene, ethylbenzene, xylene, TPH as diesel and TPH as motor oil were not detected.

4.0 PILOT STUDY PROGRESS

This section presents a summary of activities performed in accordance with the *Pilot Study Work Plan for Implementation of Proposed Remedial Action* (Geomatrix, 2004b) during the period January through March 2006. The objectives of the Pilot Study are to:

- Demonstrate that in situ destruction of contaminants is occurring in the subsurface through natural attenuation processes.
- Demonstrate that discharges of wood surface protection chemicals to surface water have been abated.
- Implement risk management measures to protect current and future personnel working on site from taking actions that would result in exposure to unacceptable risk.

During March 2006, the third of three annual groundwater sampling events for the pilot study was conducted.

4.1 FIELD METHODS

Eight monitoring wells (MW-1, MW-2, MW-3, MW-5, MW-7, MW-14, MW-20, and MW-21) were purged and sampled on March 23 and 24, 2006, in conjunction with the routine groundwater monitoring event performed pursuant to the sawmill-area MRP. Field personnel used a peristaltic pump and dedicated tubing to purge groundwater using the low-flow technique at a rate of approximately 300 to 600 milliliters per minute. Measurements of temperature, pH, specific conductance, dissolved oxygen, and oxidation-reduction potential were collected during purging via a flow-through cell and recorded on field sampling records. Copies of the field sampling records are included in Appendix A and the field measurements are summarized in Table 6.

Field personnel collected the groundwater samples after of the monitored water quality parameters stabilized to within approximately 10 percent for: specific conductance, dissolved oxygen, and oxidation-reduction potential; 0.05 pH units for pH; and 1 degree Celsius for temperature. Groundwater samples were collected from the peristaltic pump and tubing in laboratory-supplied containers, which were labeled and placed in an ice-cooled, insulated chest for transport to the laboratories for analysis. Chain-of-custody records were completed for the samples and accompanied the samples until received by the laboratories. Copies of the chain-of-custody records for the groundwater samples are included in Appendix B.

An additional groundwater sample was collected from monitoring well MW-21 and submitted to the laboratories as a blind duplicate sample, labeled MW-A-200603. This sample also was placed in laboraties-supplied containers and sent to the laboratories as described above.

4.2 LABORATORY METHODS

Groundwater samples collected from the monitoring wells were analyzed at the following laboratories: Alpha; Friedman & Bruya, Inc. (Friedman & Bruya), of Seattle, Washington; Frontier Analytical Laboratory (Frontier), of El Dorado, California; Severn Trent Laboratories, Inc. (STL), of Pleasanton, California; and K Prime, Inc. of Santa Rosa, California. These laboratories are all certified by the California Department of Health Services for laboratory chemical analysis. Groundwater samples were analyzed as follows:

- Natural attenuation parameters: Total organic carbon (EPA Method 415.1); calcium and magnesium (EPA Method 200.7); alkalinity (Standard Method 2320B); chloride, nitrate, and sulfate (EPA Method 300.0); iron (II) and manganese (II) (EPA Method 6010B); and dissolved methane and carbon dioxide (RSK 175).
- Pentachlorophenol and breakdown products, including tetrachlorophenols, trichlorophenols, dichlorophenols, and chlorophenols (EPA Method 8270 Selective Ion Monitoring [SIM]).
- Phenol (EPA Method 8270 SIM).
- Dioxins and furans (EPA Method 1613).

4.3 GROUNDWATER ANALYTICAL RESULTS

Copies of the laboratory analytical reports and chain-of-custody records for pilot study groundwater samples are included in Appendix B. Table 6 summarizes the results for field and geochemical parameters; Table 7 and Figure 8 (which includes PCP results by the Canadian Pulp Method) summarize the results for chlorinated phenols and phenol; and Table 8 summarizes the results for dioxins and furans.

PCP was detected in three wells (MW-2, MW-7, and MW-21). The highest concentration of PCP was detected in the samples collected from monitoring well MW-21 (7,700 µg/L and 8,000 µg/L in the primary and duplicate sample, respectively). The detected concentration of PCP in MW-21 is slightly higher than in previous sampling events. PCP was detected in monitoring well MW-7 at a concentration of 1,200 µg/l. The detected concentration of PCP in MW-7 is significantly lower than in previous sampling events. PCP was detected in the sample collected from monitoring well MW-2 at a concentration of 2 µg/L.

Consistent with the first and second pilot study sampling events in March 2004 and March 2005, PCP degradation products (tetra-, tri-, di-, and chlorophenols) were detected in groundwater samples from wells MW-7 and MW-21. No PCP degradation products were detected in wells MW-1, MW-2, MW-3, MW-5, MW-14, and MW-20. In the sample collected from monitoring well MW-7, tetrachlorophenol concentrations ranged from 4 to 24 µg/L, trichlorophenol concentrations ranged from non-detect to 15 µg/L, dichlorophenol concentrations ranged from non-detect to 41 µg/L, and chlorophenol ranged from non-detect to 37 µg/L. Phenol was not detected in the groundwater sample from MW-7.

In the sample collected from monitoring well MW-21 (located downgradient of MW-7), tetrachlorophenol concentrations ranged from 17 to 180 µg/L, trichlorophenol concentrations ranged from non-detect to 270 µg/L, dichlorophenol concentrations ranged from non-detect to 450 µg/L, and chlorophenol concentrations ranged from non-detect to 700 µg/L. Phenol was detected in the sample from well MW-21 at concentrations of 1.8 µg/L and 1.9 µg/L (for primary and duplicate samples, respectively).

Concentrations of dioxins and furans, which refer to a complex mixture of various dioxin and furan congeners, are generally summarized in terms of their 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) toxic equivalency (TEQ) based on toxic equivalency factors adopted by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (Cal-EPA, 2003). TEQ results for groundwater samples analyzed for dioxins and furans ranged from 0 to 79 picograms per liter (pg/L; parts per quadrillion), with only one sample showing detections greater than 1 pg/L (MW-20 at 79 pg/L).

4.4 LABORATORY DATA QUALITY REVIEW

Geomatrix reviewed the laboratory data generated for the pilot study groundwater sampling as discussed in Appendix C. Based on our review, the data generated during this reporting period for the pilot study sampling event appear to be accurate and representative.

5.0 WASTEWATER DISPOSAL

The purge water and equipment wash water generated by the environmental activities conducted during March 2006 and discussed herein were placed in three steel, 55-gallon drums and labeled. The drums, which consisted of only one that was completely filled during these activities and two drums that were partially filled during previous activities, are being temporarily stored at the site. The full drums will be disposed of by SPI in accordance with applicable regulations.

6.0 FUTURE MONITORING AND SAMPLING SCHEDULE

For both the sawmill area and truck shop area, the next semi-annual groundwater monitoring event will be performed in August or September 2006.

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TABLES

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TABLE 1

MONITORING WELL CONSTRUCTION DETAILS 1

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Date Installed	Total Boring Depth (ft bgs)	Total Well Depth (ft bgs)	Well Diameter (inches)	Latitude[2]	Longitude[2]	Ground Level Elevation[2] (ft msl)	Top of Casing Elevation[2] (ft msl)	Screened Interval (ft bgs)	Screen Slot Size (inches)	Filter Pack Interval (ft bgs)	Bentonite Seal Interval (ft bgs)	Surface Seal Interval[3] (ft bgs)
Shallow Wells													
MW-1	5-Mar-02	8	8	2	40.8661595	124.1521395	10.12	9.69	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-2	5-Mar-02	9	8	2	40.8661024	124.1525276	10.41	9.61	2.0 – 8.0	0.01	1.5 – 9.0	1.0 – 1.5	0 – 1.0
MW-3	5-Mar-02	8.5	8	2	40.8662689	124.1530739	11.67	11.22	2.0 – 8.0	0.01	1.5 – 8.5	1.0 – 1.5	0 – 1.0
MW-4	5-Mar-02	8	8	2	40.8662303	124.1533599	11.17	10.74	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-5	7-Mar-02	8	8	2	40.8660945	124.1536734	11.26	10.74	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-6	7-Mar-02	8	8	2	40.8660710	124.1531061	10.13	9.83	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-7	7-Mar-02	8	8	2	40.8659980	124.1531187	10.09	9.74	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-8	8-Mar-02	8	8	2	40.8657492	124.1535343	10.55	10.33	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-9	8-Mar-02	8	8	2	40.8657520	124.1532218	10.36	9.91	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-10	11-Nov-02	9.5	8	2	40.8656910	124.1530670	10.08	9.85	2.0 – 8.0	0.01	1.5 – 9.5	1.0 – 1.5	0 – 1.0
MW-11	12-Nov-02	8.5	8	2	40.8655740	124.1533817	10.51	10.28	2.0 – 8.0	0.01	1.5 – 8.5	1.0 – 1.5	0 – 1.0
MW-12	12-Nov-02	9.5	8	2	40.8656625	124.1537231	11.01	10.76	2.0 – 8.0	0.01	1.5 – 9.5	1.0 – 1.5	0 – 1.0
MW-14	13-Nov-02	8	8	2	40.8657622	124.1523580	9.60	9.15	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-17	14-Nov-02	9	8	2	40.8656690	124.1526420	9.46	9.16	2.0 – 8.0	0.01	1.5 – 9.0	1.0 – 1.5	0 – 1.0
MW-18	13-Nov-02	9.5	8	4	40.8657448	124.1531649	10.12	9.92	2.0 – 8.0	0.01	1.5 – 9.5	1.0 – 1.5	0 – 1.0
MW-20[4]	23-Jan-04	8	7	4	40.8658416	124.1532563	10.92	11.87	3.2 – 6.8	0.01	2.0 – 7.0	1.0 – 2.0	0 – 1.0
MW-21	12-Feb-04	8.3	8.3	0.75	40.8660161	124.1530089	10.11	12.89	2.1 – 8.1	0.01	1.5 – 8.3	1.0 – 1.5	0 – 1.0
MW-22	1-Aug-05	10	9.5	2	40.8631428	124.1555472	15.37	15.12	3.5 – 9.0	0.02	3.0 – 10	2.5 – 3.0	0 – 2.5
MW-23	1-Aug-05	10	9.5	2	40.8632724	124.1553765	15.34	15.11	2.5 – 9.0	0.02	2.0 – 10	1.5 – 2.0	0 – 1.5
P-24	1-Aug-05	10	9.5	2	40.8634773	124.1557306	15.56	15.33	3.5 – 9.0	0.02	3.0 – 10	2.5 – 3.0	0 – 2.5
P-25	1-Aug-05	10	9.5	2	40.8632884	124.1556166	16.04	15.75	3.5 – 9.0	0.02	3.0 – 10	2.5 – 3.0	0 – 2.5
Deep Wells													
MW-13D	12-Nov-02	21	20	2	40.8660809	124.1525231	10.26	9.96	15.0 – 20.0	0.01	13.5 – 21.0	12.0 – 13.5	0 – 12.0
MW-15D	13-Nov-02	21	20	2	40.8662658	124.1528255	11.59	11.19	15.0 – 20.0	0.01	14.0 – 21.0	12.0 – 14.0	0 – 12.0
MW-16D	14-Nov-02	21.5	20	2	40.8655571	124.1530363	10.13	9.83	15.0 – 20.0	0.01	14.0 – 21.5	12.0 – 14.0	0 – 12.0
MW-19D	14-Nov-02	21.5	20	2	40.8662419	124.1532744	11.21	11.06	15.0 – 20.0	0.01	14.0 – 21.0	12.0 – 14.0	0 – 12.0

Notes:

1. Construction details for wells MW-1 through MW-9 were obtained from Report on Recent Hydrogeologic Investigations at Sierra-Pacific Industries, Arcata Division Sawmill, dated April 19, 2002 prepared by Environet Consulting. Construction details for wells MW-10 through MW-19D were obtained from Results of the Remedial Investigation for Sierra Pacific Industries – Arcata Division Sawmills, Arcata, California, dated January 30, 2003, prepared by EnviroNet Consulting. Construction details for wells MW-20 and MW-21 were obtained from the Monitoring Wells MW-20 and MW-21 Installation and Sampling Report dated April 7, 2004 prepared by Geomatrix, and details for wells and piezometers MW-22 through P-25 were obtained from the Truck Shop Area Monitoring Wells and Piezometers Installation and Sampling Report dated January 27, 2006 prepared by Geomatrix.
2. Monitoring wells MW-1 through MW-21 were resurveyed by Omsberg and Company of Eureka, California on February 13, 2004, and monitoring wells and piezometers MW-22 through P-25 were surveyed by Omsberg and Preston on August 11, 2005; latitude and longitude were surveyed relative to North American Datum (NAD) of 1983 and elevations were surveyed relative to North American Vertical Datum (NAVD) of 1988.
3. Surface seal interval consists of the concrete surface completion and a neat cement sanitary seal, if applicable.
4. Well installed on a raised concrete pad of the former green chain. Depth measurements (ft bgs) are relative to the local ground surface of the concrete pad, which is approximately 1 foot above the grade of the surrounding ground surface.

Abbreviations:
ft bgs = feet below ground surface
ft msl = feet mean sea level

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TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Measurement [1] Date	MP Elevation [2] (ft NAVD 88)	Depth to Water (ft bMP)	Water Level Elevation (ft NAVD 88)
Shallow Wells				
MW-1	14-Mar-02	9.56	5.31	4.25
	18-Jul-02	9.56	4.52	5.04
	16-Sep-02	9.56	4.37	5.19
	02-Dec-02	9.56	4.18	5.38
	18-Mar-03	9.56	4.09	5.47
	31-Mar-03	9.56	4.48	5.08
	21-May-03	9.56	4.66	4.90
	27-Aug-03	9.56	4.55	5.01
	03-Nov-03	9.56	4.20	5.36
	23-Mar-04	9.69	4.47	5.22
	17-May-04	9.69	4.57	5.12
	30-Aug-04	9.69	4.55	5.14
	14-Dec-04	9.69	4.30	5.39
	09-Mar-05	9.69	4.13	5.56
	07-Sep-05	9.69	4.58	5.11
	22-Mar-06	9.69	4.17	5.52
MW-2	14-Mar-02	9.49	4.52	4.97
	18-Jul-02	9.49	5.43	4.06
	16-Sep-02	9.49	5.28	4.21
	02-Dec-02	9.49	5.17	4.32
	18-Mar-03	9.49	5.16	4.33
	31-Mar-03	9.49	5.43	4.06
	21-May-03	9.49	5.45	4.04
	27-Aug-03	9.49	5.09	4.40
	03-Nov-03	9.49	5.17	4.32
	23-Mar-04	9.61	5.31	4.30
	17-May-04	9.61	5.43	4.18
	30-Aug-04	9.61	5.07	4.54
	14-Dec-04	9.61	5.10	4.51
	09-Mar-05	9.61	5.22	4.39
	07-Sep-05	9.61	5.36	4.25
	22-Mar-06	9.61	5.27	4.34
MW-3	14-Mar-02	11.14	2.19	8.95
	18-Jul-02	11.14	2.79	8.35
	16-Sep-02	11.14	2.96	8.18
	02-Dec-02	11.14	2.75	8.39
	18-Mar-03	11.14	2.30	8.84
	31-Mar-03	11.14	1.96	9.18
	21-May-03	11.14	2.19	8.95
	27-Aug-03	11.14	2.08	9.06
	03-Nov-03	11.14	2.35	8.79
	23-Mar-04	11.22	2.24	8.98
	17-May-04	11.22	2.25	8.97
	30-Aug-04	11.22	2.42	8.80
	14-Dec-04	11.22	2.79	8.43
	09-Mar-05	11.22	2.77	8.45
	07-Sep-05	11.22	2.98	8.24
	22-Mar-06	11.22	2.13	9.09

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TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Measurement [1] Date	MP Elevation [2] (ft NAVD 88)	Depth to Water (ft bMP)	Water Level Elevation (ft NAVD 88)
MW-7	14-Mar-02	9.68	0.73	8.95
	18-Jul-02	9.68	1.15	8.53
	16-Sep-02	9.68	1.37	8.31
	02-Dec-02	9.68	1.19	8.49
	18-Mar-03	9.68	0.75	8.93
	31-Mar-03	9.68	0.26	9.42
	21-May-03	9.68	0.45	9.23
	27-Aug-03	9.68	0.61	9.07
	03-Nov-03	9.68	1.13	8.55
	23-Mar-04	9.74	0.44	9.30
	17-May-04	9.74	0.50	9.24
	30-Aug-04	9.74	0.84	8.90
	14-Dec-04	9.74	1.04	8.70
	09-Mar-05	9.74	0.96	8.78
	07-Sep-05	9.74	1.32	8.42
	22-Mar-06	9.74	0.42	9.32
MW-8	14-Mar-02	10.30	0.92	9.38
	18-Jul-02	10.30	1.24	9.06
	16-Sep-02	10.30	1.52	8.78
	02-Dec-02	10.30	1.34	8.96
	18-Mar-03	10.30	0.95	9.35
	31-Mar-03	10.30	0.29	10.01
	21-May-03	10.30	0.49	9.81
	27-Aug-03	10.30	0.91	9.39
	03-Nov-03	10.30	1.36	8.94
	23-Mar-04	10.33	0.57	9.76
	17-May-04	10.33	0.54	9.79
	30-Aug-04	10.33	0.94	9.39
	14-Dec-04	10.33	1.29	9.04
	09-Mar-05	10.33	1.07	9.26
	07-Sep-05	10.33	1.41	8.92
	22-Mar-06	10.33	0.70	9.63
MW-9	14-Mar-02	9.86	0.71	9.15
	18-Jul-02	9.86	1.13	8.73
	16-Sep-02	9.86	1.40	8.46
	02-Dec-02	9.86	1.18	8.68
	18-Mar-03	9.86	0.79	9.07
	31-Mar-03	9.86	0.11	9.75
	21-May-03	9.86	0.30	9.56
	27-Aug-03	9.86	0.81	9.05
	03-Nov-03	9.86	1.19	8.67
	23-Mar-04	9.91	0.40	9.51
	17-May-04	9.91	0.38	9.53
	30-Aug-04	9.91	0.89	9.02
	14-Dec-04	9.91	1.05	8.86
	09-Mar-05	9.91	0.85	9.06
	07-Sep-05	9.91	1.27	8.64
	22-Mar-06	9.91	0.45	9.46

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TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Measurement [1] Date	MP Elevation [2] (ft NAVD 88)	Depth to Water (ft bMP)	Water Level Elevation (ft NAVD 88)
MW-10	02-Dec-02	9.80	1.35	8.45
	18-Mar-03	9.80	0.95	8.85
	31-Mar-03	9.80	0.30	9.50
	21-May-03	9.80	0.52	9.28
	27-Aug-03	9.80	1.02	8.78
	03-Nov-03	9.80	1.43	8.37
	23-Mar-04	9.85	0.70	9.15
	17-May-04	9.85	0.61	9.24
	30-Aug-04	9.85	1.13	8.72
	14-Dec-04	9.85	1.24	8.61
	09-Mar-05	9.85	1.05	8.80
	07-Sep-05	9.85	1.43	8.42
	22-Mar-06	9.85	0.90	8.95
MW-11	02-Dec-02	10.26	1.55	8.71
	18-Mar-03	10.26	1.12	9.14
	31-Mar-03	10.26	0.40	9.86
	21-May-03	10.26	0.64	9.62
	27-Aug-03	10.26	1.19	9.07
	03-Nov-03	10.26	1.56	8.70
	23-Mar-04	10.28	0.75	9.53
	17-May-04	10.28	0.69	9.59
	30-Aug-04	10.28	1.20	9.08
	14-Dec-04	10.28	1.44	8.84
	09-Mar-05	10.28	1.14	9.14
	07-Sep-05	10.28	1.57	8.71
	22-Mar-06	10.28	0.79	9.49
MW-12	02-Dec-02	10.73	1.56	9.17
	18-Mar-03	10.73	1.15	9.58
	31-Mar-03	10.73	0.55	10.18
	21-May-03	10.73	0.70	10.03
	27-Aug-03	10.73	1.12	9.61
	03-Nov-03	10.73	1.68	9.05
	23-Mar-04	10.76	0.87	9.89
	17-May-04	10.76	0.76	10.00
	30-Aug-04	10.76	1.13	9.63
	14-Dec-04	10.76	1.55	9.21
	09-Mar-05	10.76	1.27	9.49
	07-Sep-05	10.76	1.57	9.19
	22-Mar-06	10.76	0.98	9.78
MW-14	02-Dec-02	9.02	2.40	6.62
	18-Mar-03	9.02	2.21	6.81
	31-Mar-03	9.02	1.77	7.25
	21-May-03	9.02	1.69	7.33
	27-Aug-03	9.02	2.27	6.75
	03-Nov-03	9.02	2.52	6.50
	23-Mar-04	9.15	2.08	7.07
	17-May-04	9.15	2.15	7.00
	30-Aug-04	9.15	2.48	6.67
	14-Dec-04	9.15	2.30	6.85
	09-Mar-05	9.15	2.10	7.05
	07-Sep-05	9.15	2.37	6.78
	22-Mar-06	9.15	2.38	6.77

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TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Measurement [1] Date	MP Elevation [2] (ft NAVD 88)	Depth to Water (ft bMP)	Water Level Elevation (ft NAVD 88)
MW-17	02-Dec-02	8.98	1.27	7.71
	18-Mar-03	8.98	0.94	8.04
	31-Mar-03	8.98	0.32	8.66
	21-May-03	8.98	0.58	8.40
	27-Aug-03	8.98	1.06	7.92
	03-Nov-03	8.98	1.30	7.68
	23-Mar-04	9.16	0.83	8.33
	17-May-04	9.16	0.74	8.42
	30-Aug-04	9.16	1.21	7.95
	14-Dec-04	9.16	1.17	7.99
	09-Mar-05	9.16	1.00	8.16
	07-Sep-05	9.16	1.35	7.81
	22-Mar-06	9.16	0.79	8.37
MW-18	02-Dec-02	9.53	0.94	8.59
	18-Mar-03	9.53	0.52	9.01
	31-Mar-03	9.53	--[3]	NC
	21-May-03	9.53	0.05	9.48
	27-Aug-03	9.53	0.55	8.98
	03-Nov-03	9.53	0.95	8.58
	23-Mar-04	9.92	0.52	9.40
	17-May-04	9.92	0.47	9.45
	30-Aug-04	9.92	0.98	8.94
	14-Dec-04	9.92	1.13	8.79
	09-Mar-05	9.92	0.94	8.98
	07-Sep-05	9.92	1.36	8.56
	22-Mar-06	9.92	0.59	9.33
MW-20	23-Mar-04	11.87	2.36	9.51
	17-May-04	11.87	2.35	9.52
	30-Aug-04	11.87	2.70	9.17
	14-Dec-04	11.87	2.80	9.07
	09-Mar-05	11.87	2.72	9.15
	07-Sep-05	11.87	3.06	8.81
	22-Mar-06	11.87	2.22	9.65
MW-21	23-Mar-04	12.89	3.97	8.92
	17-May-04	12.89	3.99	8.90
	30-Aug-04	12.89	4.23	8.66
	14-Dec-04	12.89	4.36	8.53
	09-Mar-05	12.89	4.35	8.54
	07-Sep-05	12.89	4.65	8.24
	22-Mar-06	12.89	3.79	9.10
MW-22	08-Sep-05	15.12	5.76	9.36
	23-Mar-06	15.12	4.38	10.74
MW-23	08-Sep-05	15.11	5.44	9.67
	23-Mar-06	15.11	3.99	11.12
P-24	08-Sep-05	15.33	4.84	10.49
	23-Mar-06	15.33	2.69	12.64
P-25	08-Sep-05	15.75	5.47	10.28
	23-Mar-06	15.75	3.40	12.35

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TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Measurement [1] Date	MP Elevation [2] (ft NAVD 88)	Depth to Water (ft bMP)	Water Level Elevation (ft NAVD 88)
Deep Wells				
MW-13D	02-Dec-02	9.84	4.18	5.66
	18-Mar-03	9.84	4.21	5.63
	31-Mar-03	9.84	4.26	5.58
	21-May-03	9.84	4.52	5.32
	27-Aug-03	9.84	4.45	5.39
	03-Nov-03	9.84	4.30	5.54
	23-Mar-04	9.96	4.42	5.54
	17-May-04	9.96	4.54	5.42
	30-Aug-04	9.96	4.57	5.39
	14-Dec-04	9.96	4.56	5.40
	09-Mar-05	9.96	4.26	5.70
	07-Sep-05	9.96	4.55	5.41
	22-Mar-06	9.96	3.98	5.98
MW-15D	02-Dec-02	11.08	5.31	5.77
	18-Mar-03	11.08	5.44	5.64
	31-Mar-03	11.08	5.46	5.62
	21-May-03	11.08	5.74	5.34
	27-Aug-03	11.08	5.71	5.37
	03-Nov-03	11.08	5.51	5.57
	23-Mar-04	11.19	5.66	5.53
	17-May-04	11.19	5.77	5.42
	30-Aug-04	11.19	5.83	5.36
	14-Dec-04	11.19	5.75	5.44
	09-Mar-05	11.19	5.48	5.71
	07-Sep-05	11.19	5.83	5.36
	22-Mar-06	11.19	5.18	6.01
MW-16D	02-Dec-02	9.80	3.99	5.81
	18-Mar-03	9.80	4.17	5.63
	31-Mar-03	9.80	3.91	5.89
	21-May-03	9.80	4.11	5.69
	27-Aug-03	9.80	3.95	5.85
	03-Nov-03	9.80	4.26	5.54
	23-Mar-04	9.83	4.01	5.82
	17-May-04	9.83	4.13	5.70
	30-Aug-04	9.83	4.13	5.70
	14-Dec-04	9.83	4.38	5.45
	09-Mar-05	9.83	4.22	5.61
	07-Sep-05	9.83	4.23	5.60
	22-Mar-06	9.83	3.76	6.07
MW-19D	02-Dec-02	11.00	4.31	6.69
	18-Mar-03	11.00	4.23	6.77
	31-Mar-03	11.00	4.02	6.98
	21-May-03	11.00	4.22	6.78
	27-Aug-03	11.00	4.26	6.74
	03-Nov-03	11.00	4.61	6.39
	23-Mar-04	11.06	4.13	6.93
	17-May-04	11.06	4.63	6.43
	30-Aug-04	11.06	4.60	6.46
	14-Dec-04	11.06	4.82	6.24
	09-Mar-05	11.06	4.46	6.60
	07-Sep-05	11.06	4.59	6.47
	22-Mar-06	11.06	4.26	6.80

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TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Measurement [1] Date	MP Elevation [2] (ft NAVD 88)	Depth to Water (ft bMP)	Water Level Elevation (ft NAVD 88)
MW-4	14-Mar-02	10.71	1.52	9.19
	18-Jul-02	10.71	1.84	8.87
	16-Sep-02	10.71	2.04	8.67
	02-Dec-02	10.71	1.80	8.91
	18-Mar-03	10.71	1.52	9.19
	31-Mar-03	10.71	0.93	9.78
	21-May-03	10.71	1.18	9.53
	27-Aug-03	10.71	1.36	9.35
	03-Nov-03	10.71	1.64	9.07
	23-Mar-04	10.74	1.17	9.57
	17-May-04	10.74	1.17	9.57
	30-Aug-04	10.74	1.37	9.37
	14-Dec-04	10.74	2.21	8.53
	09-Mar-05	10.74	1.95	8.79
	07-Sep-05	10.74	2.08	8.66
	22-Mar-06	10.74	1.55	9.19
MW-5	14-Mar-02	10.69	0.95	9.74
	18-Jul-02	10.69	1.26	9.43
	16-Sep-02	10.69	1.35	9.34
	02-Dec-02	10.69	1.23	9.46
	18-Mar-03	10.69	0.87	9.82
	31-Mar-03	10.69	0.63	10.06
	21-May-03	10.69	0.69	10.00
	27-Aug-03	10.69	0.84	9.85
	03-Nov-03	10.69	0.92	9.77
	23-Mar-04	10.74	0.62	10.12
	17-May-04	10.74	0.78	9.96
	30-Aug-04	10.74	0.71	10.03
	14-Dec-04	10.74	1.50	9.24
	09-Mar-05	10.74	1.40	9.34
	07-Sep-05	10.74	1.43	9.31
	22-Mar-06	10.74	0.95	9.79
MW-6	14-Mar-02	9.77	0.85	8.92
	18-Jul-02	9.77	1.27	8.50
	16-Sep-02	9.77	1.51	8.26
	02-Dec-02	9.77	1.30	8.47
	18-Mar-03	9.77	0.89	8.88
	31-Mar-03	9.77	0.37	9.40
	21-May-03	9.77	0.60	9.17
	27-Aug-03	9.77	0.70	9.07
	03-Nov-03	9.77	1.21	8.56
	23-Mar-04	9.83	0.69	9.14
	17-May-04	9.83	0.78	9.05
	30-Aug-04	9.83	0.99	8.84
	14-Dec-04	9.83	1.25	8.58
	09-Mar-05	9.83	1.17	8.66
	07-Sep-05	9.83	1.47	8.36
	22-Mar-06	9.83	0.56	9.27

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TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Measurement [1] Date	MP Elevation [2] (ft NAVD 88)	Depth to Water (ft bMP)	Water Level Elevation (ft NAVD 88)
Mad River Slough[4]	31-Mar-03	15.70	15.15	0.55
	31-Mar-03	15.70	15.84	-0.14
	21-May-03	15.70	17.23	-1.53
	21-May-03	15.70	16.75	-1.05
	27-Aug-03	15.70	16.20	-0.50
	27-Aug-03	15.70	12.60	3.10
	03-Nov-03	15.70	9.63	6.07
	03-Nov-03	15.70	10.53	5.17
	23-Mar-04	15.70	15.00	0.70
	23-Mar-04	15.70	12.16	3.54
	17-May-04	15.70	14.48	1.22
	17-May-04	15.70	12.50	3.20
	30-Aug-04	15.70	15.17	0.53
	30-Aug-04	15.70	12.20	3.50
	14-Dec-04	15.70	12.05	3.65
	14-Dec-04	15.70	9.90	5.80
	09-Mar-05	15.70	9.31	6.39
	09-Mar-05	15.70	8.43	7.27
	07-Sep-05	15.70	16.35	-0.65
	07-Sep-05	15.70	12.95	2.75
	22-Mar-06	15.70	12.55	3.15
	22-Mar-06	15.70	15.80	-0.10

Notes:

1. Data prior to March 18, 2003 were obtained from Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmill, Arcata, California, dated January 30, 2003, prepared by Environet Consulting.
2. Monitoring wells surveyed by Omsberg & Company of Eureka, California. Wells MW-1 through MW-21 were resurveyed on February 13, 2004, wells MW-22 through P-25 were surveyed on August 11, 2005; elevations shown are relative to the Northern American Vertical Datum of 1988.
3. Water level was above the top of casing measuring point.
4. Mad River Slough measuring point on railroad bridge. Water level measurements are obtained before and after the water level measurements in monitoring wells MW-1 through MW-21.

Abbreviations:
ft NAVD 88 = feet above North American Vertical Datum of 1988
ft bMP = feet below measuring point
-- = not measured or sample not collected for analysis
NC = not calculated

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TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Date Sampled	Field Measurements[1] Temperature (ºC)	Specific Conductance (µmohs/cm)	pH (pH Units)	TDS (mg/L)	Laboratory Measurement[2] TDS (mg/L)
Shallow Wells						
MW-1	20-Mar-03	14	2,600	6.5	--	--
	22-May-03	14	2,700	6.7	--	1,400
	27-Aug-03	18	2,500	6.7	1,800	1,400
	04-Nov-03	17	2,400	6.6	1,800	1,300
	17-May-04	15	2,600	6.3	1,900	1,400
	15-Dec-04	15	3,800	6.6	2,500	--
	11-Mar-05	14	2,100	6.5	1,400	--
	07-Sep-05	18	2,400	6.5	1,700	--
	23-Mar-06	13	2,700	6.5	1,700	--
MW-2	20-Mar-03	13	2,100	6.2	--	--
	22-May-03	14	1,700	6.4	1,100	860
	27-Aug-03	18	1,500	6.6	1,100	760
	03-Nov-03	16	1,590	6.3	1,100	760
	24-Mar-04	13	1,390	6.3	970	740
	17-May-04	15	1,400	6.2	980	730
	30-Aug-04	19	1,200	--[3]	850	680
	15-Dec-04	14	1,100	6.4	740	--
	11-Mar-05	13	1,200	6.2	790	--
	07-Sep-05	18	1,300	6.4	900	--
	23-Mar-06	13	1,300	6.4	860	--
MW-3	20-Mar-03	13	1,100	6.4	--	--
	22-May-03	15	1,000	6.4	630	510
	27-Aug-03	20	1,000	6.5	720	470
	03-Nov-03	16	980	6.6	--	410
	17-May-04	16	1,100	6.2	750	510
	15-Dec-04	13	700	6.4	460	--
	10-Mar-05	13	600	6.4	390	--
	07-Sep-05	19	810	6.4	810	--
	23-Mar-06	12	540	6.7	350	--
MW-4	20-Mar-03	14	830	6.5	--	--
	22-May-03	16	730	6.4	440	420
	27-Aug-03	21	730	6.5	500	340
	03-Nov-03	18	760	6.6	520	310
	17-May-04	18	880	6.2	590	360
	15-Dec-04	14	640	6.4	410	--

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TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Date Sampled	Field Measurements[1]				Laboratory Measurement[2]
		Temperature (ºC)	Specific Conductance (µmohs/cm)	pH (pH Units)	TDS (mg/L)	TDS (mg/L)
MW-5	20-Mar-03	14	670	6.6	--	--
	22-May-03	14	690	6.6	410	360
	27-Aug-03	18	670	6.7	450	360
	03-Nov-03	17	660	6.6	450	380
	17-May-04	15	660	6.3	440	360
	15-Dec-04	15	470	6.4	310	--
	10-Mar-05	14	570	6.3	390	--
	07-Sep-05	18	660	6.5	450	--
	24-Mar-06	11	190	6.6	130	--
MW-6	20-Mar-03	11	950	6.6	--	--
	22-May-03	14	1,000	6.3	620	430
	27-Aug-03	17	890	6.4	620	410
	04-Nov-03	13	920	6.6	630	430
	24-Mar-04	11	920	6.5	640	410
	17-May-04	14	930	6.3	640	420
	30-Aug-04	17	880	-- [3]	610	430
	15-Dec-04	11	700	6.4	460	--
	11-Mar-05	11	900	6.7	620	--
	07-Sep-05	16	900	6.4	610	--
	22-Mar-06	9	990	6.6	650	--
MW-7	20-Mar-03	11	910	6.6	--	--
	22-May-03	11	960	6.5	--	460
	27-Aug-03	14	840	6.6	580	400
	03-Nov-03	12	870	6.6	600	460
	24-Mar-04	11	960	6.4	--	440
	18-May-04	12	730	6.6	490	370
	30-Aug-04	14	840	-- [3]	580	410
	15-Dec-04	11	700	6.4	460	--
	09-Mar-05	11	850	6.3	580	--
	07-Sep-05	13	920	6.4	630	--
	24-Mar-06	10	120	6.7	85	--
MW-8	18-Mar-03	14	730	6.4	--	--
	21-May-03	16	740	6.3	460	390
	27-Aug-03	21	730	6.2	500	370
	04-Nov-03	17	740	6.4	510	380
	24-Mar-04	14	780	6.2	530	400
	17-May-04	18	800	6.1	530	390
	30-Aug-04	21	760	-- [3]	520	390
	14-Dec-04	14	650	6.3	420	--
	11-Mar-05	13	800	6.5	550	--
	07-Sep-05	20	810	6.4	540	--
	22-Mar-06	12	860	6.5	560	--

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TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Date Sampled	Field Measurements[1]				Laboratory Measurement[2]
		Temperature (ºC)	Specific Conductance (µmohs/cm)	pH (pH Units)	TDS (mg/L)	TDS (mg/L)
MW-9	18-Mar-03	14	820	6.4	--	--
	23-May-03	16	870	6.6	550	400
	27-Aug-03	20	830	6.2	570	350
	04-Nov-03	17	820	6.6	560	350
	24-Mar-04	14	880	6.4	600	380
	17-May-04	16	930	6.1	620	380
	30-Aug-04	20	860	-- [3]	550	440
	14-Dec-04	13	800	6.4	520	--
	11-Mar-05	13	900	6.7	620	--
	07-Sep-05	19	920	6.4	620	--
	22-Mar-06	12	930	6.6	600	--
MW-10	18-Mar-03	14	920	6.4	--	--
	23-May-03	17	970	6.7	--	460
	27-Aug-03	22	860	6.3	600	400
	04-Nov-03	18	880	6.6	600	430
	17-May-04	19	920	6.2	610	420
	14-Dec-04	14	700	6.4	450	--
MW-11	20-Mar-03	14	870	6.4	--	--
	21-May-03	17	890	6.4	560	460
	27-Aug-03	23	870	6.2	600	440
	04-Nov-03	19	880	6.6	600	450
	17-May-04	18	880	6.2	590	430
	14-Dec-04	15	740	6.4	480	--
MW-12	18-Mar-03	15	830	6.3	--	--
	21-May-03	18	840	6.1	--	460
	27-Aug-03	23	870	6.2	600	480
	04-Nov-03	18	920	6.5	630	480
	17-May-04	20	900	6.0	600	490
	14-Dec-04	14	710	6.4	460	--
MW-14	20-Mar-03	14	3,200	6.7	--	--
	22-May-03	15	3,400	6.6	--	2,100
	27-Aug-03	20	3,600	6.6	2,300	1,900
	04-Nov-03	16	3,300	6.6	2,500	2,100
	17-May-04	17	2,800	6.4	2,000	1,800
	15-Dec-04	14	2,500	6.6	1,300	--
	09-Mar-05	13	2,400	6.6	1,600	--
	07-Sep-05	20	2,700	6.4	2,000	--
	23-Mar-06	13	2,900	6.7	1,900	--

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TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Date Sampled	Field Measurements[1]				Laboratory Measurement[2]
		Temperature (ºC)	Specific Conductance (µmohs/cm)	pH (pH Units)	TDS (mg/L)	TDS (mg/L)
MW-17	20-Mar-03	13	980	6.4	--	--
	22-May-03	15	1,000	6.5	--	450
	27-Aug-03	19	860	7.0	600	420
	04-Nov-03	15	920	6.6	640	450
	17-May-04	15	940	6.5	620	440
	14-Dec-04	12	830	6.4	540	--
MW-18	18-Mar-03	14	1,000	6.5	--	--
	23-May-03	17	980	6.6	610	640
	27-Aug-03	23	1,100	6.3	780	520
	04-Nov-03	17	1,100	6.6	760	490
	17-May-04	19	1,000	6.3	670	430
	14-Dec-04	13	860	6.5	560	--
MW-20	24-Mar-04	14	420	6.9	280	250
	18-May-04	18	470	6.7	310	280
	30-Aug-04	21	500	-- [3]	330	300
	15-Dec-04	12	370	6.5	240	--
	09-Mar-05	13	320	6.6	220	--
	07-Sep-05	19	510	6.6	340	--
	24-Mar-06	11	310	6.8	200	--
MW-21	24-Mar-04	12	990	6.3	680	460
	18-May-04	14	1,000	6.3	660	420
	30-Aug-04	16	960	-- [3]	660	450
	15-Dec-04	11	760	6.2	500	--
	10-Mar-05	11	930	6.3	640	--
	07-Sep-05	15	1,000	6.4	690	--
	24-Mar-06	10	1,000	6.6	670	--
MW-22	08-Sep-05	19	740	6.6	--	--
	23-Mar-06	14	720	6.0	--	--
MW-23	08-Sep-05	18	4,400	6.7	--	--
	23-Mar-06	14	4,100	6.6	--	--
P-24	08-Sep-05	21	1,500	6.2	--	--
P-25	08-Sep-05	18	410	6.1	--	--

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TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Well No.	Date Sampled	Field Measurements[1] Temperature (ºC)	Specific Conductance (µmohs/cm)	pH (pH Units)	TDS (mg/L)	Laboratory Measurement[2] TDS (mg/L)
Deep Wells						
MW-13D	20-Mar-03	14	1,200	6.2	--	--
	22-May-03	14	1,100	6.2	--	--
	27-Aug-03	15	1,100	6.1	750	690
	04-Nov-03	15	1,000	6.1	--	580
	17-May-04	14	1,000	5.8	700	610
	15-Dec-04	14	620	6.1	400	--
	11-Mar-05	14	900	6.2	620	--
	22-Mar-06	14	1,200	6.2	770	--
MW-15D	20-Mar-03	13	1,300	6.8	--	--
	22-May-03	13	1,300	6.8	--	800
	27-Aug-03	14	1,300	6.3	900	810
	04-Nov-03	14	1,300	6.8	--	790
	17-May-04	13	1,400	6.3	930	800
	15-Dec-04	14	1,000	6.7	650	--
	11-Mar-05	13	1,300	6.8	880	--
	22-Mar-06	13	1,300	6.6	840	--
MW-16D	18-Mar-03	14	5,200	7.7	--	--
	23-May-03	14	5,200	7.6	--	3,200
	27-Aug-03	16	5,000	7.4	3,400	3,000
	04-Nov-03	16	4,800	7.6	3,700	2,800
	17-May-04	15	4,600	7.3	3,500	2,800
	14-Dec-04	16	3,700	7.7	2,400	--
	11-Mar-05	15	4,400	7.8	3,400	--
	22-Mar-06	14	4,400	7.7	2,900	--
MW-19D	20-Mar-03	16	810	6.7	--	--
	22-May-03	16	860	6.6	520	480
	27-Aug-03	17	810	6.5	560	410
	03-Nov-03	17	760	6.7	520	370
	17-May-04	16	840	6.5	560	430
	15-Dec-04	17	490	6.5	320	--

Notes:
1. Water quality parameters measured in the field using an Ultrameter instrument or a YSI Model 556 instrument; reported measurements recorded towards end of purge after parameters stabilized or from the last purge volume if a well was repeatedly purged dry.
2. Water quality parameter analyzed in the laboratory; EPA Method 160.1. Laboratory analysis of TDS was discontinued during the fourth quarter 2004.
3. pH meter inoperable.

Abbreviations:
ºC = degrees Celsius
µmhos/cm = micromhos per centimeter at 25 ºC
mg/L = milligrams per liter
-- = not measured or sample not collected for analysis
TDS = total dissolved solids
EPA = U.S. Environmental Protection Agency

TABLE 4

LABORATORY ANALYTICAL RESULTS FOR CHLORINATED PHENOLS
(CANADIAN PULP METHOD)
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations in micrograms per liter (µg/L)

Monitoring Well Number	Date Sampled [1]	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol	Comments
Shallow Wells							
MW-1	14-Mar-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	16-Sep-02	1.8	< 1.0	< 1.0	< 1.0	< 1.0	
	03-Oct-02 [2]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	02-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	04-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	11-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	low flow sample
	23-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	low flow sample
MW-2	14-Mar-02	7.4	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	16-Sep-02	2.5	< 1.0	< 1.0	< 1.0	< 1.0	
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	24-Mar-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	30-Aug-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	11-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	low flow sample
	07-Sep-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	low flow sample
	23-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	low flow sample
MW-3	14-Mar-02	1.2	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	16-Sep-02	5.0	< 1.0	< 1.0	< 1.0	< 1.0	
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

TABLE 4

LABORATORY ANALYTICAL RESULTS FOR CHLORINATED PHENOLS
(CANADIAN PULP METHOD)
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations in micrograms per liter (µg/L)

Monitoring Well Number	Date Sampled [1]	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol	Comments
MW-4	14-Mar-02	8.6	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	16-Sep-02	5.7	< 1.0	< 1.0	< 1.0	< 1.0	
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-5	14-Mar-02	4.3	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Jul-02	9.1	< 1.0	< 1.0	< 1.0	< 1.0	
	16-Sep-02	25	< 1.0	< 1.0	< 1.0	< 1.0	
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	duplicate sample
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-6	14-Mar-02	4.5	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	16-Sep-02	6.3	< 1.0	< 1.0	< 1.0	< 1.0	
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	24-Mar-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	30-Aug-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	11-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	07-Sep-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

TABLE 4

LABORATORY ANALYTICAL RESULTS FOR CHLORINATED PHENOLS
(CANADIAN PULP METHOD)
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations in micrograms per liter (µg/L)

Monitoring Well Number	Date Sampled [1]	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol	Comments
MW-7	14-Mar-02	31,000	< 1.0	41	650	24	
	18-Jul-02	33,000	< 1.0	< 1.0	990	56	
	16-Sep-02	44,000	< 1.0	< 1.0	920	64	
	03-Dec-02	46,000	< 1.3	76	1,300	52	
	14-Jan-03 [3]	51,000	2.4	< 1.0	970	52	
	20-Mar-03	19,000	< 1.0	36	460	22	
	22-May-03	19,000	< 1.0	< 1.0	470	< 100	
	22-May-03	16,000	< 1.0	< 1.0	400	< 100	duplicate sample
	22-May-03	14,000	< 1.0	< 1.0	400	< 100	filtered
	27-Aug-03	31,000	< 1.5	41	710	39	
	27-Aug-03	18,000	< 1.0	28	450	26	duplicate sample
	3-Nov-03	28,000	< 5.0	36	580	35	bailer sample / unfiltered
	3-Nov-03	31,000	< 5.0	47	740	43	bailer sample / filtered
	3-Nov-03	20,000	< 5.0	28	450	24	low flow sample / unfiltered
	3-Nov-03	14,000	< 5.0	19	300	17	low flow sample / filtered
	24-Mar-04	19,000	< 1.5	19	450	19	
	24-Mar-04	7,400	< 1.0	8.7	150	9.9	duplicate sample
	18-May-04	25,000	< 2.5	86	480	41	
	30-Aug-04	13,000	< 1.0	54	200	17	
	15-Dec-04	22,000	1.7	57	310	42	
	09-Mar-05	24,000	< 1.0	39	420	32	low flow sample
	07-Sep-05	16,000	< 1.0	19	280	16	
	07-Sep-05	13,000	< 1.0	17	230	14	duplicate sample
	24-Mar-06	1,900	< 1.0	8.7	41	3.7	
MW-8	14-Mar-02	22	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Jul-02	31	< 1.0	< 1.0	< 1.0	< 1.0	
	16-Sep-02	4.8	< 1.0	< 1.0	< 1.0	< 1.0	
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	21-May-03	1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	24-Mar-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	30-Aug-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	14-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	11-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	07-Sep-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

TABLE 4

LABORATORY ANALYTICAL RESULTS FOR CHLORINATED PHENOLS
(CANADIAN PULP METHOD)
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations in micrograms per liter (µg/L)

Monitoring Well Number	Date Sampled [1]	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol	Comments
MW-9	14-Mar-02	94	3.1	21	130	5.5	
	18-Jul-02	2.1	< 1.0	< 1.0	< 1.0	< 1.0	
	16-Sep-02	3.1	< 1.0	< 1.0	< 1.0	< 1.0	
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	23-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	04-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	24-Mar-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	30-Aug-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	14-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	11-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	07-Sep-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-10	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	23-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	14-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-11	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	21-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	14-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-12	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	21-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	14-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

TABLE 4

LABORATORY ANALYTICAL RESULTS FOR CHLORINATED PHENOLS
(CANADIAN PULP METHOD)
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations in micrograms per liter (µg/L)

Monitoring Well Number	Date Sampled [1]	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol	Comments
MW-14	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	09-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	low flow sample
	23-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	low flow sample
MW-17	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	14-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-18	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	23-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	14-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-20	24-Mar-04	35	< 1.0	< 1.0	5.1	3.8	
	18-May-04	3.6	< 1.0	< 1.0	1.1	< 1.0	
	30-Aug-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	09-Mar-05	71	3.4	27	< 1.0	4.6	low flow sample
	07-Sep-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	low flow sample
MW-21	24-Mar-04	800	< 1.0	6.3	17	12	
	18-May-04	1,900	< 1.0	11	36	11	
	18-May-04	670	< 1.0	3.5	16	4.4	duplicate sample
	30-Aug-04	2,700	< 1.0	6.4	66	5.4	
	30-Aug-04	2,800	< 1.0	6.9	68	5.5	duplicate sample
	15-Dec-04	3,200	< 1.0	34	50	5.5	
	15-Dec-04	8,100	2.1	64	120	8.3	duplicate sample
	10-Mar-05	4,700	< 1.0	8.1	31	< 1.5	low flow sample
	10-Mar-05	4,600	2.7	26	86	6.5	low flow sample / duplicate
	07-Sep-05	4,900	< 1.0	11	170	4.8	
	24-Mar-06	13,000	1.5	41	180	8.9	low flow sample
	24-Mar-06	14,000	1.4	41	190	8.8	low flow sample / duplicate

TABLE 4

LABORATORY ANALYTICAL RESULTS FOR CHLORINATED PHENOLS
(CANADIAN PULP METHOD)
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations in micrograms per liter (µg/L)

Monitoring Well Number	Date Sampled [1]	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol	Comments
Deep Wells							
MW-13D	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	11-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-15D	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	11-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-16D	03-Dec-02	1.3	< 1.0	< 1.0	< 1.0	< 1.0	
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	23-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	14-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	11-Mar-05	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-Mar-06	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MW-19D	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	4-Nov-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	17-May-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
	15-Dec-04	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Notes:
1. Data prior to March 18, 2003 were obtained from Results of the Remedial Investigation for Sierra Pacific Industries, Arcata Division Sawmill, Arcata, California, dated January 30, 2003, prepared by EnviroNet Consulting.
2. Confirmation sample collected due to detection of pentachlorophenol on September 16, 2002.
3. Sample also contained 280 mg/L of 2,3,4-trichlorophenol and 190 mg/L of 2,4,5-trichlorophenol.

Abbreviation:
< = target analyte was not detected at or above the laboratory reporting limit shown.
-- = not measured or sample not collected for analysis.

TABLE 5

LABORATORY ANALYTICAL RESULTS FOR TRUCK SHOP MONITORING WELLS [1]

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Monitoring Well Number	Date Sampled	TPH as Gasoline (µg/L)	TPH as Diesel[2] (µg/L)	TPH as Motor Oil[2] (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	VOCs[3] (µg/L)		
MW-22	9/8/2005	<100	<50	<250	--	--	--	--	acetone 28 toluene 23	<10	ND[4]
	9/8/2005[5]	<100	<50	<250	--	--	--	--	acetone 36 toluene 29	<10	ND
	3/23/2006	66	<50	<175	<1	16	<1	<3	--	--	--
MW-23	9/8/2005	<100	<50	280	--	--	--	--	ND	<10	ND
	3/23/2006	<50	<50	<175	<1	<1	<1	<3	--	--	--
P-24	9/8/2005	<100	76	350	--	--	--	--	ND	<10	ND
P-25	9/8/2005	330	80	750	--	--	--	--	toluene 130	<10	ND

Notes:

1. Samples analyzed by Friedman & Bruya, Inc., in Seattle, Washington, for total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, and TPH as motor oil by EPA Method 8015 Modified; for benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B; for volatile organic compounds (VOCs) by EPA Method 8260B; for phenol by EPA Method 8270C; and for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C SIM.
2. Sample extracts passed through a silica gel column prior to analysis.
3. Only detected compounds are presented.
4. ND = not detected at or above the analytical laboratory reporting limit. Reporting limits vary for each compound; see the analytical laboratory reports (Appendix F) for compound-specific reporting limits.
5. Duplicate sample.

Abbreviations:
µg/L = micrograms per liter; parts per billion
< = target analyte was not detected at or above the laboratory reporting limit shown
EPA = U.S. Environmental Protection Agency
-- = sample not collected for analysis

TABLE 6

FIELD MEASUREMENTS AND LABORATORY ANALYTICAL RESULTS FOR NATURAL ATTENUATION PARAMETERS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Sample Location	Sample Date	Field Measurements[1]					Laboratory Analysis[2]										
		Eh[3]	DO	Specific Conductance	Temperature	pH	Nitrate (N)	Manganese	Iron	Sulfate (SO_4)	Carbon Dioxide	Methane	TOC	Chloride	Total Alkalinity as $CaCO_3$	Calcium	Magnesium
		(mV)	(mg/L)	(µS/cm)	(°C)	(pH Units)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Shallow Monitoring Wells																	
MW-1	11/04/03	222	0.2	2,400	17	6.4	--	--	--	--	--	--	--	--	--	--	--
	03/24/04	173	0.1	2,400	15	6.5	0.42	1.8	42	0.71	255	6.9	36.6	320	830	41	63
	03/11/05	138	0.1	2,100	14	6.5	<0.20	1.6	50	<0.50	258	8.0	14.1	260	860	36	57
	03/23/06	94	1.2	2,700	13	6.5	<0.20	4.3	61	0.99	260	2.4	38.0	330	830	40	64
MW-2	11/03/03	226	0.4	1,600	16	6.2	2.8	6	30	<0.50	314	3.8	33.9	240	520	66	40
	03/24/04	219	0.2	1,400	13	6.2	<0.20	4	61	<0.50	232	4.5	35.7	160	550	65	39
	03/11/05	182	0.1	1,200	13	6.2	<0.20	4.6	53	<0.50	289	5.3	15.8	100	520	62	37
	03/23/06	132	0.5	1,300	13	6.4	<0.20	5.2	58	<0.50	272	2.0	31.7	100	480	77	39
MW-3	11/03/03	201	0.3	920	17	6.3	4.6	3.9	9.1	<0.50	174	5.4	18	37	460	55	36
	03/24/04	183	0.1	1,000	13	6.4	<0.20	5.3	66	<0.50	179	9.1	36.3	35	450	62	46
	03/10/05	169	0.1	600	13	6.4	<0.20	2.5	33	<0.50	116	5.7	16.5	33	280	31	28
	03/23/06	103	0.4	540	12	6.7	<0.20	1.9	25	2.2	84.5	2.8	12.3	25	210	24	18
MW-4	11/03/03	207	0.1	670	18	6.3	--	--	--	--	--	--	--	--	--	--	--
MW-5	11/03/03	255	0.3	660	17	6.3	<1.0	0.42	0.97	<0.50	125	9.2	9.36	25	350	28	45
	03/24/04	293	0.2	650	14	6.3	<0.20	0.48	4	<0.50	122	6.3	11.4	21	310	29	50
	03/10/05	232	0.1	570	14	6.3	<0.20	0.67	4.7	<0.50	136	6.4	7.34	18	320	29	48
	03/24/06	136	1.1	190	11	6.6	<0.20	0.29	2.2	<0.50	24.9	0.93	5.54	8.6	71	9.3	14
MW-6	11/04/03	236	0.2	890	13	6.3	--	--	--	--	--	--	--	--	--	--	--
MW-7	11/03/03	197	0.1	860	13	6.4	<1.0	13	2.3	<0.50	152	8.8	28.1	45	420	26	42
	03/24/04	189	0.2	880	11	6.4	<0.20	3	55	<0.50	147	10.6	20.8	46	410	31	47
	03/09/05	130	0.1	850	11	6.3	<0.20	3.5	56	<0.50	157	10.5	18.2	60	400	35	52
	03/24/06	197	3.4	120	10	6.7	<0.20	0.23	0.91	4.0	15	1.4	43.7	21	15	4.3	2.2
MW-8	11/04/03	237	0.3	740	17	6.2	--	--	--	--	--	--	--	--	--	--	--
MW-9	11/04/03	211	0.2	810	17	6.4	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/04/03	215	0.1	880	18	6.4	--	--	--	--	--	--	--	--	--	--	--
MW-11	11/04/03	196	0.2	870	19	6.4	--	--	--	--	--	--	--	--	--	--	--
MW-12	11/04/03	251	0.4	810	18	6.2	--	--	--	--	--	--	--	--	--	--	--
MW-14	11/04/03	234	0.2	2,700	16	6.3	--	--	--	--	--	--	--	--	--	--	--
	03/24/04	212	0.1	2,400	14	6.4	<0.20	1.5	41	<0.50	290	5.2	106	460	1,100	23	50
	03/09/05	109	0.1	2,400	13	6.6	<0.20	0.73	18	<0.50	270	0.16	60.9	390	1,100	25	55
	03/23/06	98	0.4	2,900	13	6.7	<0.20	0.98	38	<0.50	310	2.6	71.3	410	1,000	29	56
MW-17	11/04/03	240	0.2	970	15	6.4	--	--	--	--	--	--	--	--	--	--	--
MW-18	11/04/03	198	0.2	950	17	6.4	--	--	--	--	--	--	--	--	--	--	--
MW-20	03/24/04	252	0.1	440	13	6.8	<0.20	1	0.2	1.6	30.5	<0.00158	9.48	21	210	32	32
	03/09/05	182	0.2	320	13	6.6	<0.20	1.5	2.2	1.2	41.4	0.015	7.25	17	180	23	23
	03/24/06	164	0.6	310	11	6.8	<0.20	0.92	0.62	2.6	25.1	<0.00158	5.11	8.6	140	27	15
MW-21	03/24/04	162	0.3	990	11	6.4	<0.20	2.7	67	<0.50	135	0.0043	21.4	54	380	30	50
	03/10/05	146	0.1	930	11	6.3	<0.20	2.7	69	<0.50	179	7.4	18.6	62	430	29	50
	03/10/05[4]						<0.20	2.7	69	<0.50	165	7.8	16.4	62	420	29	49
	03/24/06	95	0.5	1,000	10	6.6	<0.20	2.7	70	<0.50	156	5.1	17.7	84	360	28	47
	03/24/06[4]						<0.20	2.7	70	<0.50	150	5.8	18.1	84	360	27	47
Deep Monitoring Wells																	
MW-13D	11/04/03	253	0.1	670	16	5.9	--	--	--	--	--	--	--	--	--	--	--
MW-15D	11/04/03	255	0.3	1,200	14	6.5	--	--	--	--	--	--	--	--	--	--	--
MW-16D	11/04/03	246	0.1	4,600	16	7.5	--	--	--	--	--	--	--	--	--	--	--
MW-19D	11/03/03	197	0.3	730	18	6.5	--	--	--	--	--	--	--	--	--	--	--

Notes:

1. Water quality parameters measured in the field with a YSI model 556 in a flow-through cell.
2. Samples collected by Geomatrix and analyzed by EPA Method 415.1 (total organic carbon), EPA Method 200.7 (calcium and magnesium), EPA Method 300 (chloride, nitrate and sulfate), EPA Method 6010B (Iron (II) and Manganese (II)), Standard Methods 2320B (total alkalinity), RSK 175 (carbon dioxide and methane).
3. Reduction-oxidation potential standardized to hydrogen electrode for silver/silver-chloride electrode (199 millivolts was added to the field measurement).
4. Duplicate sample.

Abbreviations:

Eh = reduction-oxidation potential
DO = dissolved oxygen
TOC = total organic carbon
$CaCO_3$ = calcium carbonate
mV = millivolts
mg/L = milligrams per liter
µS/cm = microSiemens per centimeter
°C = degrees Celsius
< = target analyte was not detected at or above the laboratory reporting limit shown.
-- = not measured or sample not collected for analysis.

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TABLE 7

LABORATORY ANALYTICAL RESULTS FOR CHLORINATED PHENOLS AND PHENOL (8270 SIM METHOD)[1]

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations in micrograms per liter (µg/L)

Monitoring Wells	Date Sampled	PCP	3,4,5-TCP	2,3,5,6-TeCP	2,3,4,5-TeCP	2,3,4,6-TeCP	3,4-DCP	2,3,6-TCP	3,5-DCP	2,3,4-TCP	2,4,5-TCP	2,4,6-TCP	2,3,5-TCP	2,5-DCP	3-CP + 4-CP[2]	2,6-DCP	2,3-DCP	2,4-DCP	2-CP	Phenol
MW-1	24-Mar-04	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	<1	<1	<1
	11-Mar-05	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	07-Sep-05 [3]	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07-Sep-05 [3, 4]	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	23-Mar-06	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<2	<1
MW-2	24-Mar-04	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	11-Mar-05	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	07-Sep-05 [3]	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	23-Mar-06	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<2	<1
MW-3	24-Mar-04	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	10-Mar-05	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	07-Sep-05 [3]	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	23-Mar-06	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<2	<1
MW-5	24-Mar-04	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	10-Mar-05	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	07-Sep-05 [3]	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	24-Mar-06	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<2	<1
MW-7	24-Mar-04	15,000	92	320	17	23	390	<1	18	1	56	<1	2	<1	460	<1	<1	4	<1	2
	09-Mar-05	12,000	290	490	37	17	610	1	28	2	75	1	2	<1	890	<1	1	5	<1	3
	24-Mar-06	1,200	15	24	4 J	8.9	41	<1	1.2	<1	4.5	<1	<1	<1	37	<1	<1	<1	<2	<1
MW-14	24-Mar-04	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	09-Mar-05	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
	07-Sep-05 [3]	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	23-Mar-06	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<2	<1
MW-20	24-Mar-04	9	2	2	2	<1	8	<1	<1	<1	1	<1	<1	<1	2	<1	<1	<1	<1	<1
	09-Mar-05	100	4	2	4	12	15	<1	9	<1	<1	4	5	<1	9	<1	<1	1	<1	<1
	23-Mar-06	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<2	<1
MW-21	24-Mar-04	520	52 ve	16	16	7	130	<1	9	<1	3	<1	<1	<1	200	<1	<1	<1	<1	<1
	24-Mar-04 [4]	570	50 ve	17	14	6	120	<1	9	<1	3	<1	<1	<1	200	<1	<1	<1	<1	<1
	10-Mar-05	5,500	250	109	4	27	310	<1	19	<1	5	<1	<1	<1	270	<1	<1	2	<1	<1
	10-Mar-05 [4]	5,500	250	110	4	27	310	<1	20	<1	5	<1	<1	<1	270	<1	<1	2	<1	<1
	24-Mar-06	7,700	260	170	17	39	420	<1	17	<1	9.3 ve	1.1	<1	<1	650	<1	2.1	<1	<2	1.8
	24-Mar-06 [4]	8,000	270	180	20	44	450	<1	19	<1	9.0 ve	1.2	<1	<1	700	<1	2.2	<1	<2	1.9

Notes:

1. Groundwater samples analyzed by EPA Method 8270 SIM.
2. Results shown are for both 3-CP and 4-CP (the sum of) since these compounds could not be separated for individual analysis in the laboratory.
3. Confirmation sample collected due to detection of pentachlorophenol on March 10 or 11, 2005.
4. Duplicate sample.

Abbreviations:

PCP = pentachlorophenol
TeCP = tetrachlorophenol
TCP = trichlorophenol
DCP = dichlorophenol
CP = chlorophenol
EPA = U.S. Environmental Protection Agency
SIM = select ion monitoring
-- = not measured or sample not collected for analysis.
< = target analyte was not detected at or above the laboratory reporting limit shown.
J = the result is below the reporting limit and represents an estimated value.
ve = value exceeded the calibration range established for the instrument and is therefore considered an estimate; result upon dilution and re-analysis was not detected at or above the laboratory reporting limit.

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TABLE 8

LABORATORY ANALYTICAL RESULTS FOR DIOXINS AND FURANS[1]

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

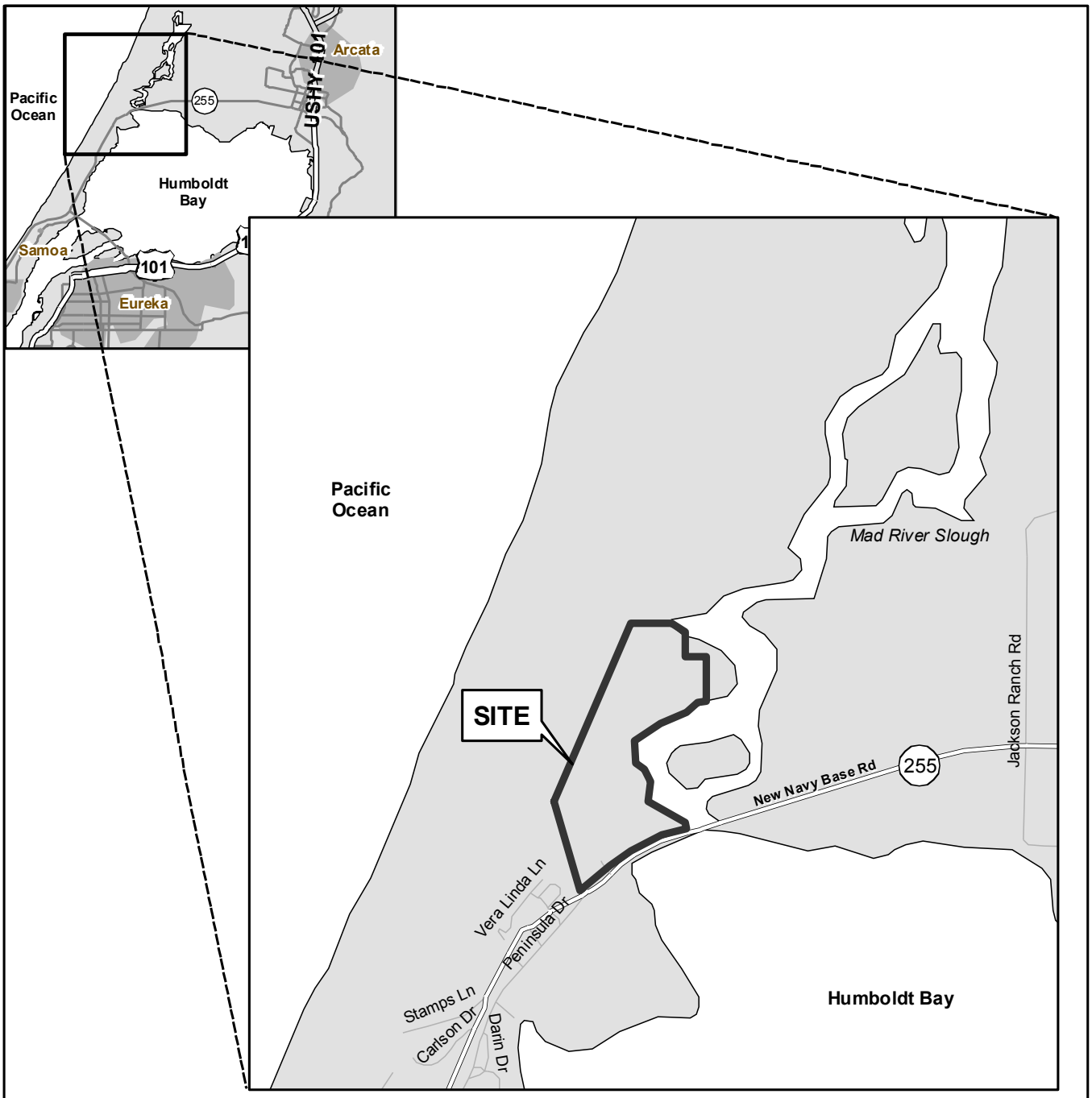
Concentrations in picograms per liter (pg/L)

Monitoring Well Number	Date Sampled	2, 3, 7, 8-TCDD	1, 2, 3, 7, 8-PeCDD	1, 2, 3, 4, 7, 8-HxCDD	1, 2, 3, 6, 7, 8-HxCDD	1, 2, 3, 7, 8, 9-HxCDD	1, 2, 3, 4, 6, 7, 8-HpCDD	OCDD	Total Dioxins	2, 3, 7, 8-TCDF	1, 2, 3, 7, 8-PeCDF	2, 3, 4, 7, 8-PeCDF	1, 2, 3, 4, 7, 8-HxCDF	1, 2, 3, 6, 7, 8-HxCDF	2, 3, 4, 6, 7, 8-HxCDF	1, 2, 3, 7, 8, 9-HxCDF	1, 2, 3, 4, 6, 7, 8-HpCDF	1, 2, 3, 4, 7, 8, 9-HpCDF	OCDF	Total Furans	TOTAL TEQ [2, 3]	PERCENT 2,3,7,8-TCDD[4]	Comments
Shallow Wells																						
MW-1	24-Mar-04	<1.69	<2.85	<5.19	<6.00	<5.29	<4.87	87.0	13.5	<1.10	<3.21	<2.84	<1.20	<1.61	<1.47	<1.91	<2.21	<2.57	<7.41	<8.79	0.00870	0	
	11-Mar-05	<1.77	<2.88	<3.27	<4.25	<3.70	6.39 J	136	21.3 J	<1.33	<3.57	<3.70	<1.42	<1.26	<1.13	<1.73	<1.74	<2.36	<4.44	<9.18	0.0775	0	
	23-Mar-06	<1.75	<1.66	<3.92	<4.06	<5.06	<3.64	11.7 J	<12.11	<1.48	<2.48	<2.48	<1.15	<1.29	<1.35	<1.50	<1.28	<2.20	<5.58	<7.68	0.00117	0	
MW-2	24-Mar-04	<1.63	<2.60	<4.86	<5.67	<4.89	<7.48	61.1	<21.16	<1.37	<3.65	<3.00	<1.30	<1.79	<1.73	<2.42	<3.01	<3.67	<7.05	9.62	0.00611	0	
	11-Mar-05	<1.61	<2.85	<2.75	<3.59	<3.03	<4.61	18.8 J	<12.66	<1.39	<3.37	<3.02	<1.46	<1.30	<1.29	<1.88	<1.71	<2.32	<3.16	<8.96	0.00188	0	
	23-Mar-06	<0.891	<1.80	<3.57	<3.69	<4.70	<4.99	<7.44	<12.381	<1.52	<2.05	<2.05	<1.10	<1.17	<1.30	<1.38	<0.729	<1.21	<4.62	<6.18	0	0	
MW-3	24-Mar-04	<1.90	<2.46	<4.74	<6.23	<4.81	74.6	976	219.14 J	<1.46	<3.76	<2.88	<1.15	<1.53	<1.44	<1.99	21.6 J	<2.22	33.9 J	109.03 J	1.06	0	
	10-Mar-05	<1.85	<4.50	<4.51	<5.56	<4.59	<5.31	31.6 J	<17.22	<1.72	<2.91	<2.77	<1.65	<1.51	<1.52	<1.92	<1.88	<2.40	<6.19	<8.95	0.00316	0	
	23-Mar-06	<1.56	<2.23	<4.45	<4.39	<5.37	<3.77	23.5 J	<12.93	<1.41	<1.99	<1.95	<1.08	<1.18	<1.28	<1.51	<2.14	<4.14	<8.13	<9.05	0.00235	0	
MW-5	24-Mar-04	<1.45	<2.24	<3.67	<4.31	<3.72	19.5 J	121	36.9	<1.29	<3.17	<2.80	<0.747	<1.02	<1.05	<1.38	7.60 J	<2.45	20.2 J	28.76	0.286	0	
	10-Mar-05	<1.65	<4.20	<3.50	<4.31	<3.47	<6.54	59.7	<16.7	<1.48	<3.04	<3.01	<1.92	<1.80	<1.74	<2.36	<2.26	<2.60	<6.19	8.02 J	0.00597	0	
	24-Mar-06	<1.33	<2.64	<4.30	<4.52	<5.65	51.9	553	132.7 J	<1.69	<4.19	<4.01	<2.05	<2.19	<2.47	<3.01	36.3	<3.89	124	174.5	0.950	0	
MW-7	16-Sep-02	<3.12	<3.45	<5.82	<6.31	<5.32	32.4	144	50.0	<3.36	<4.21	<4.59	<2.38	<2.81	<2.86	<2.99	6.59	<6.67	22.2	81.43 J	0.407	0	
	22-May-03	<1.62	<4.05	22.6 J	<3.83	<3.10	30.2	449	101.50	<1.26	<2.04	<2.02	<1.02	<1.17	<1.19	<1.15	4.97 J	<0.807	20.7 J	48.44	2.66	0	
	22-May-03	<1.27	<2.00	7.89 J	<2.47	<1.97	16.3	231	50.0	<1.01	<1.66	<1.64	<1.09	<1.28	<1.4	<1.67	2.09 J	<1.19	7.05 J	32.63	0.997	0	filtered
	03-Nov-03	<2.22	<4.82	<9.48	<10.4	<9.25	<9.54	41.1 J	<26.98	<2.29	<7.96	<5.93	<2.11	<2.51	<2.63	<3.12	<3.03	<4.42	<10.6	<23.04	0.00411	0	filtered
	24-Mar-04	<1.76	46.5	56.4	<5.29	<4.61	71.4	1370	289.3 M	<1.41	<3.57	<2.67	<1.13	<1.57	<1.28	<1.95	8.00 J	<3.17	31.3 J	157.3 J	53.0	0	
	09-Mar-05	<3.21	<4.66	<11.7	<9.57	<7.78	42.4	1,600	88.6	<4.83	<4.92	<4.87	<5.41	<4.70	<5.00	<4.88	<5.91	<6.93	32.1 J	81.5	0.587	0	
	24-Mar-06	<1.32	<2.23	<3.69	<3.84	<4.70	35.9	347	100.2 J	<1.00	<1.87	<1.79	<1.57	<1.79	<1.94	<2.20	15.0 J	<2.41	47.3 J	95.66 J	0.548	0	
MW-14	24-Mar-04	<1.74	<3.36	<5.32	<5.84	<5.15	10.2 J	70.4	19.9 J	<1.31	<3.96	<3.01	<1.13	<1.64	<1.33	<1.97	<2.42	<2.97	<8.53	<10.21	0.109	0	
	09-Mar-05	<2.18	<4.31	<4.54	<5.51	<4.31	<7.26	46.2 J	<19.26	<2.05	<2.89	<2.59	<2.29	<2.12	<2.09	<2.78	<2.57	<3.13	<8.18	<10.85	0.00462	0	
	23-Mar-06	<1.56	<2.04	<3.38	<3.43	<4.30	<2.98	<9.73	<10.88	<1.06	<1.72	<1.80	<0.841	<0.942	<1.00	<1.07	<1.38	<2.30	<5.03	<6.23	0	0	
MW-20	24-Mar-04	4.05 J	22.7 J	60.2	2,060	466	93,600	1,240,000	210,367.2	6.50 F	19.5 J	15.3 J	52.6	226 D,M	57.6	11.4 J	3,220 D,M	251	13,600	26,240 D,M	1430	0.00283	
	09-Mar-05	<2.05	<4.69	<8.75	111	17.8 J	3,850	50,500	9,227	<4.81	<7.00	<6.29	14.8 J	22.2 J	16.5 J	4.42	832	57.9	3,000	6,192 D,M	71.0	0	
	24-Mar-06	<1.47	4.83 J	<9.85	138	20.1 J	3,770	45,300	8,352.1	<1.33	<4.70	<4.57	20.4 J	<3.93	16.9 J	<4.95	1,090	105	4,910	6,872.5	79.0	0	
MW-21	24-Mar-04	<1.82	<2.92	8.76 J	56.1	9.46 J	1,050	12,800	2,542.8	<1.39	<7.15	<3.28	6.89 J	20.9 J	10.3 J	<2.55	605	32.6	1,960	3,477.1 D,M	29.6	0	
	10-Mar-05	<3.78	<14.7	64.6	<9.98	<9.90	79.4	223	274.5 M	<6.15 F	<6.27	<7.06	1,640	<9.63	<8.08	26.0 J	<8.57	177	<24.7	2,687.4	176	0	
	10-Mar-05	<1.19	<4.39	<4.13	<5.51	<4.29	20.4 J	522	38.0	<1.15	<2.10	<2.20	<1.40	<1.27	<1.25	<1.58	9.20 J	<1.72	23.4 J	35.01	0.351	0	duplicate
	24-Mar-06	<1.45	<3.70	<5.73	<5.40	<6.54	24.1 J	314	45.2	<1.35	<1.97	<2.05	<1.09	<1.11	<1.16	<1.27	7.84 J	<1.94	23.0 J	37.96 J	0.353	0	
	24-Mar-06	<1.68	<3.45	<6.38	<6.11	<7.43	16.8 J	326	27.9	<1.14	<4.02	<4.17	<1.57	<1.77	<1.87	<1.98	3.24 J	<2.27	15.7 J	27.2 J	0.235	0	duplicate
	TEF [5]:	1	1	0.1	0.1	0.1	0.01	0.0001	--	0.1	0.05	0.5	0.1	0.1	0.1	0.1	0.01	0.01	0.0001	--	--	--	

Notes:
1. Groundwater samples analyzed by EPA Method 1613.
2. Calculated as the sum of congener concentrations after each has been multiplied by its TEF.
3. Concentrations not detected above the laboratory reporting limit were assigned a concentration of 0 pg/g to calculate TEQ.
4. Calculated by dividing the concentration of 2,3,7,8-TCDD by the Total TEQ (multiplied by 100). When the concentration of 2,3,7,8-TCDD was not detected, it was assigned a concentration of 0 pg/g for this calculation.
5. Toxicity equivalency factor (unitless) from the World Health Organization, 1997 (WHO-97), adopted from F.X.R. van Leeuwen, 1997.
6. TEQ calculation included at least one congener concentration that was "J" flagged by the laboratory. The TEQ is therefore considered approximate.

Abbreviations:
TCDD = tetrachlorodibenzo-p-dioxin
PeCDD = pentachlorodibenzo-p-dioxin
HxCDD = hexachlorodibenzo-p-dioxin
HpCDD = heptachlorodibenzo-p-dioxin
OCDD = octachlorodibenzo-p-dioxin
TCDF = tetrachlorodibenzofuran
PeCDF = pentachlorodibenzofuran
HxCDF = hexachlorodibenzofuran
HpCDF = heptachlorodibenzofuran
OCDF = octachlorodibenzofuran
TEQ = toxicity equivalence
TEF = toxicity equivalency factor (unitless)
EPA = U.S. Environmental Protection Agency
-- = not measured or sample not collected for analysis.
< = target analyte was not detected at or above the laboratory reporting limit shown.
J = concentration detected was below the calibration range, as flagged by the laboratory.
M = maximum possible concentration, as flagged by the laboratory.
F = analyte confirmation on secondary column, as flagged by laboratory.
D = presence of diphenyl ethers detected, as flagged by laboratory.

FIGURES



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SITE LOCATION MAP
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

By: MAH	Date: 4/25/2006	Project No. 9329.000
Geomatrix		Figure 1

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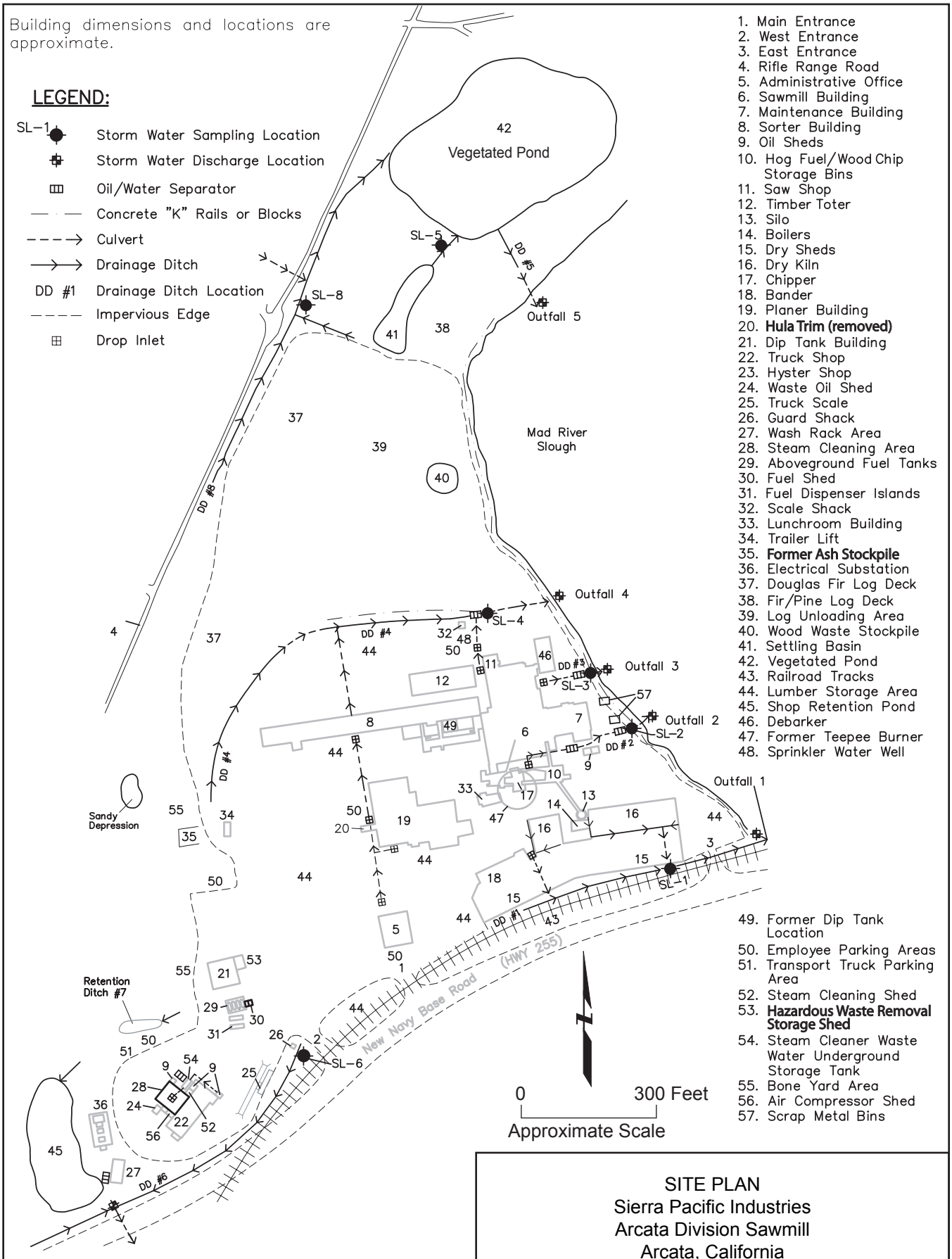

Site plan modified from Plate 2B in ***Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California,*** dated January 30, 2003, prepaerd by EnviroNet.

SITE PLAN
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

By: MAH	Date: 03-May-2006	Project No. 9329.000
Geomatrix		Figure 2

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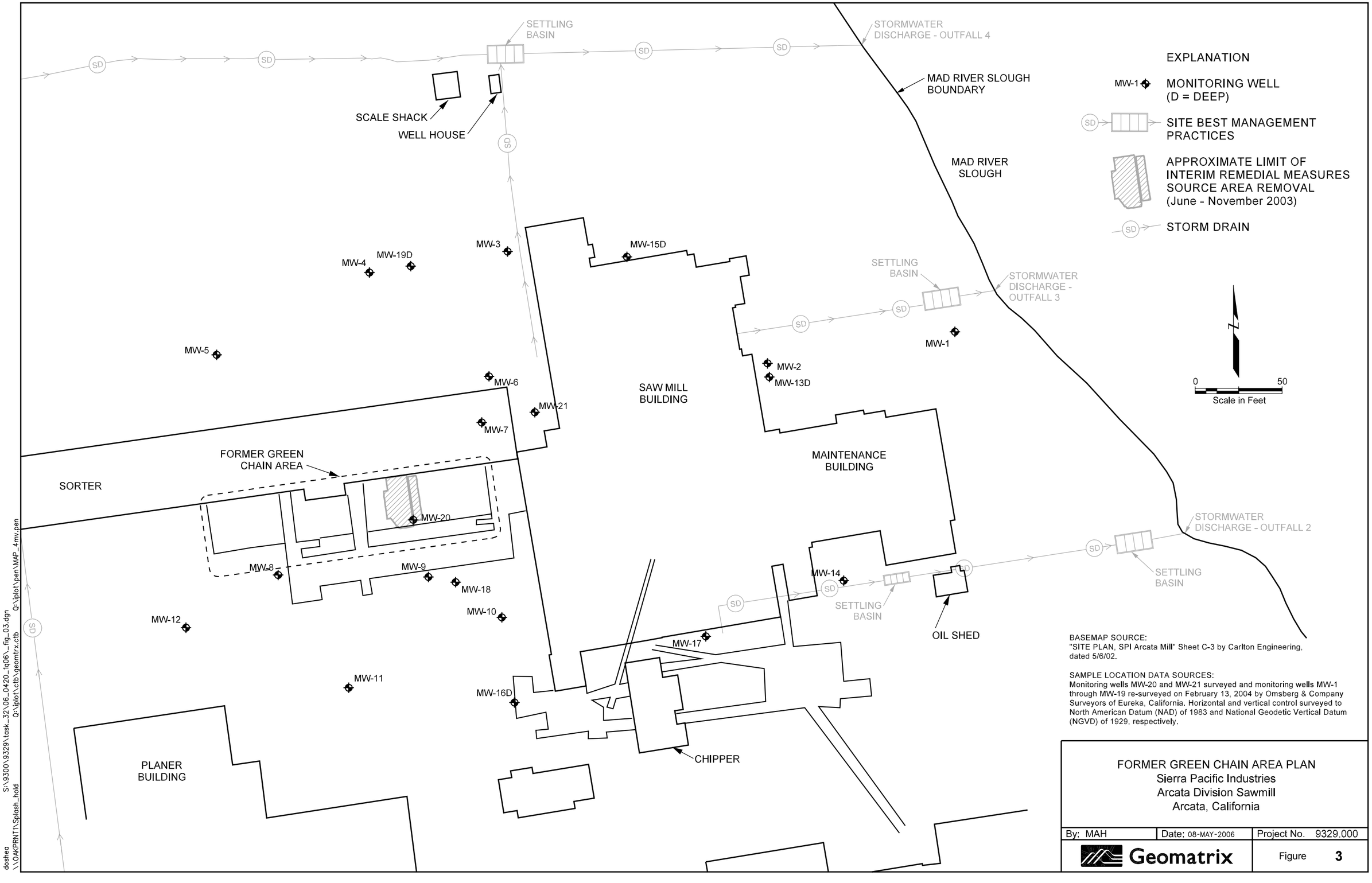

BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
Monitoring wells MW-20 and MW-21 surveyed and monitoring wells MW-1 through MW-19 re-surveyed on February 13, 2004 by Omsberg & Company Surveyors of Eureka, California. Horizontal and vertical control surveyed to North American Datum (NAD) of 1983 and National Geodetic Vertical Datum (NGVD) of 1929, respectively.

FORMER GREEN CHAIN AREA PLAN
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

By: MAH	Date: 08-MAY-2006	Project No. 9329.000
Geomatrix		Figure 3

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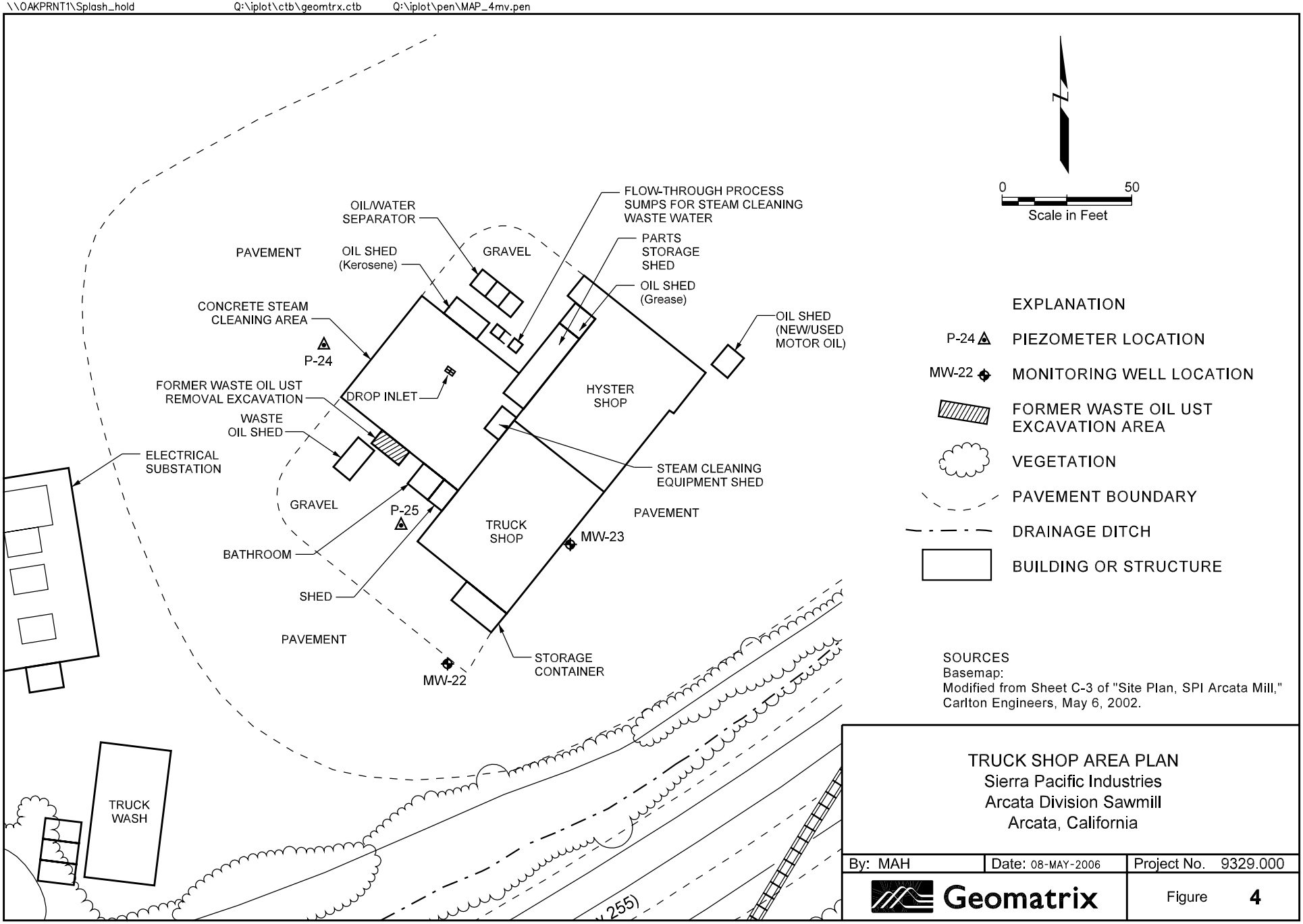

SOURCES
Basemap:
Modified from Sheet C-3 of "Site Plan, SPI Arcata Mill," Carlton Engineers, May 6, 2002.

TRUCK SHOP AREA PLAN
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

By: MAH	Date: 08-MAY-2006	Project No. 9329.000
Geomatrix		Figure 4

N

0 50
Scale in Feet

SETTLING BASIN
STORMWATER DISCHARGE - OUTFALL 4
MAD RIVER SLOUGH BOUNDARY
MAD RIVER SLOUGH
SCALE SHACK
WELL HOUSE
SD
MW-3 9.09
MW-4 9.19
MW-19D
MW-15D
MW-5 9.79
MW-6 9.27
MW-21 9.10
MW-7 9.32
MW-20 9.65
MW-8 9.63
MW-9 9.46
MW-18 9.33
MW-10 8.95
MW-12 9.78
MW-11 9.49
MW-16D
MW-17 8.37
MW-14 6.77
MW-2 4.34
MW-13D
MW-1* 5.52
9.0
8.0
7.0
6.0
5.0
SETTLING BASIN
STORMWATER DISCHARGE - OUTFALL 3
SAW MILL BUILDING
MAINTENANCE BUILDING
FORMER GREEN CHAIN AREA
SORTER
PLANER BUILDING
CHIPPER
OIL SHED
STORMWATER DISCHARGE - OUTFALL 2
SETTLING BASIN

EXPLANATION

- MW-1 "SHALLOW" MONITORING WELL
- MW-13D "DEEP" MONITORING WELL
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- SITE BEST MANAGEMENT PRACTICES
- APPROXIMATE LIMIT OF INTERIM REMEDIAL MEASURES SOURCE AREA REMOVAL (June - November 2003)
- STORM DRAIN
- 9.19 GROUNDWATER ELEVATION IN FEET ABOVE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.
- 5.0 GROUNDWATER ELEVATION CONTOUR DRAWN TO APPROXIMATE THE GROUNDWATER POTENTIOMETRIC SURFACE. LINES OF EQUAL ELEVATION ARE SHOWN FOR CLARITY AND NOT MEANT TO IMPLY CERTAINTY; CONTOUR INTERVAL OF 1.0 FEET
- * MW-1 WATER-LEVEL DATA NOT USED FOR CONTOURING BECAUSE IT IS LOCATED WITHIN THE 100-foot TIDAL INFLUENCE ZONE (EnviroNet, 2003)

BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
Monitoring wells MW-20 and MW-21 surveyed and monitoring wells MW-1 through MW-19 re-surveyed on February 13, 2004 by Omsberg & Company Surveyors of Eureka, California. Horizontal and vertical control surveyed to North American Datum (NAD) of 1983 and National Geodetic Vertical Datum (NGVD) of 1929, respectively. Elevations shown are based on the NAVD of 1988 coordinate system and are 3.35 feet higher than the NGVD of 1929 elevations.

POTENTIOMETRIC SURFACE MAP OF SHALLOW GROUNDWATER - SAWMILL AREA MARCH 22, 2006

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

By: MAH	Date: 08-MAY-2006	Project No. 9329.000
Geomatrix		Figure 5

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0 50
Scale in Feet

SETTLING BASIN
STORMWATER DISCHARGE - OUTFALL 4
MAD RIVER SLOUGH BOUNDARY
SCALE SHACK
WELL HOUSE
MAD RIVER SLOUGH
SETTLING BASIN
STORMWATER DISCHARGE - OUTFALL 3
STORMWATER DISCHARGE - OUTFALL 2
SETTLING BASIN
OIL SHED
SAW MILL BUILDING
MAINTENANCE BUILDING
FORMER GREEN CHAIN AREA
SORTER
PLANER BUILDING
CHIPPER

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-14
MW-16D 6.07
MW-17
MW-18
MW-19D 6.80
MW-20
MW-21
MW-13D 5.98
MW-15D 6.01

6.0
5.5
6.0
5.5

EXPLANATION

- MW-1 — "SHALLOW" MONITORING WELL
- MW-13D — "DEEP" MONITORING WELL
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- SITE BEST MANAGEMENT PRACTICES
- APPROXIMATE LIMIT OF INTERIM REMEDIAL MEASURES SOURCE AREA REMOVAL (June - November 2003)
- STORM DRAIN
- 6.80 — GROUNDWATER ELEVATION IN FEET ABOVE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.
- 6.0 — GROUNDWATER ELEVATION CONTOUR DRAWN TO APPROXIMATE THE GROUNDWATER POTENTIOMETRIC SURFACE. LINES OF EQUAL ELEVATION ARE SHOWN FOR CLARITY AND NOT MEANT TO IMPLY CERTAINTY; CONTOUR INTERVAL OF 0.5 FEET

BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
Monitoring wells MW-20 and MW-21 surveyed and monitoring wells MW-1 through MW-19 re-surveyed on February 13, 2004 by Omsberg & Company Surveyors of Eureka, California. Horizontal and vertical control surveyed to North American Datum (NAD) of 1983 and National Geodetic Vertical Datum (NGVD) of 1929, respectively. Elevations shown are based on the NAVD of 1988 coordinate system and are 3.35 feet higher than the NGVD of 1929 elevations.

POTENTIOMETRIC SURFACE MAP OF DEEP GROUNDWATER - SAWMILL AREA MARCH 22, 2006

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

By: MAH	Date: 08-MAY-2006	Project No. 9329.000
Geomatrix		Figure 6

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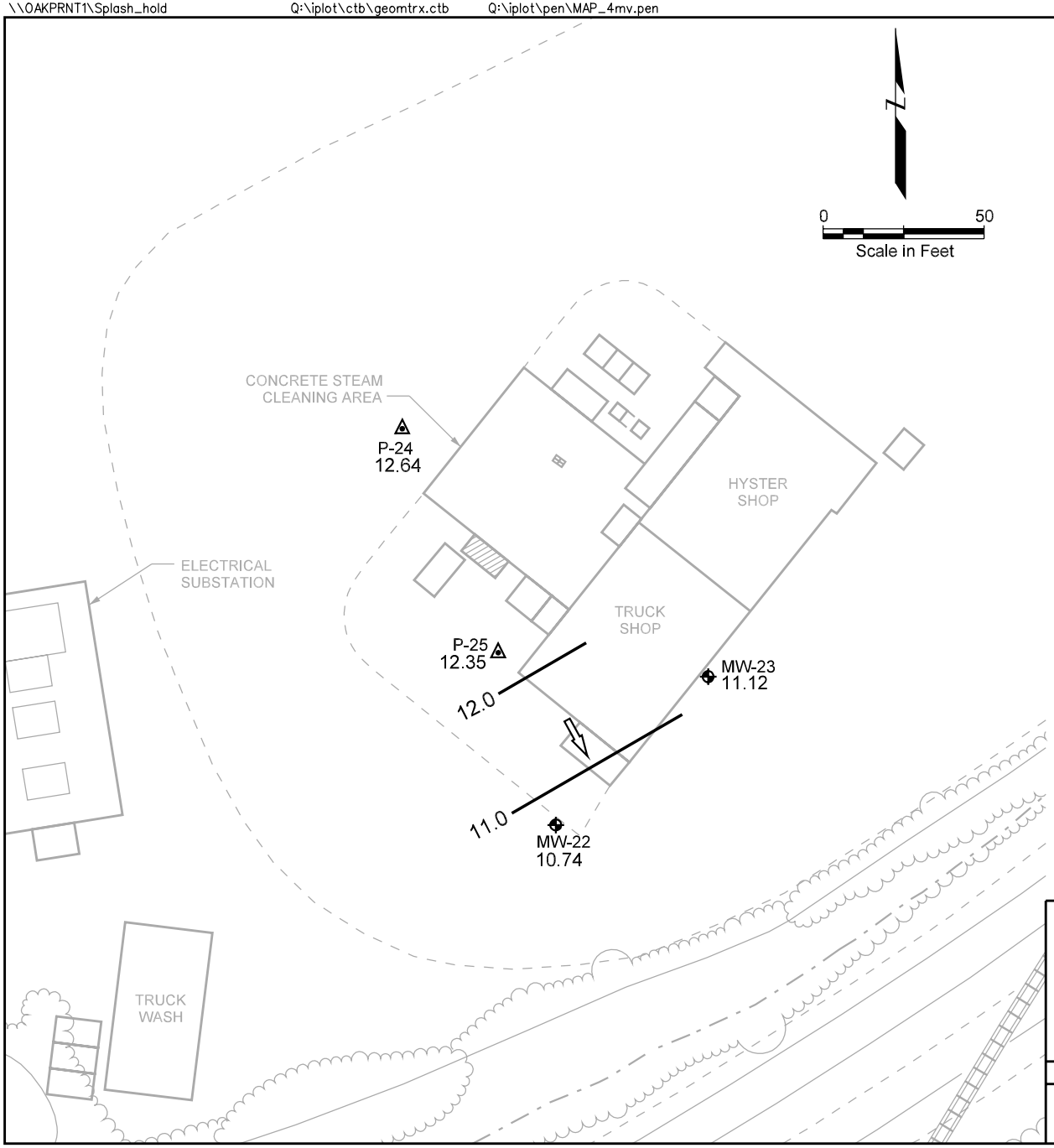


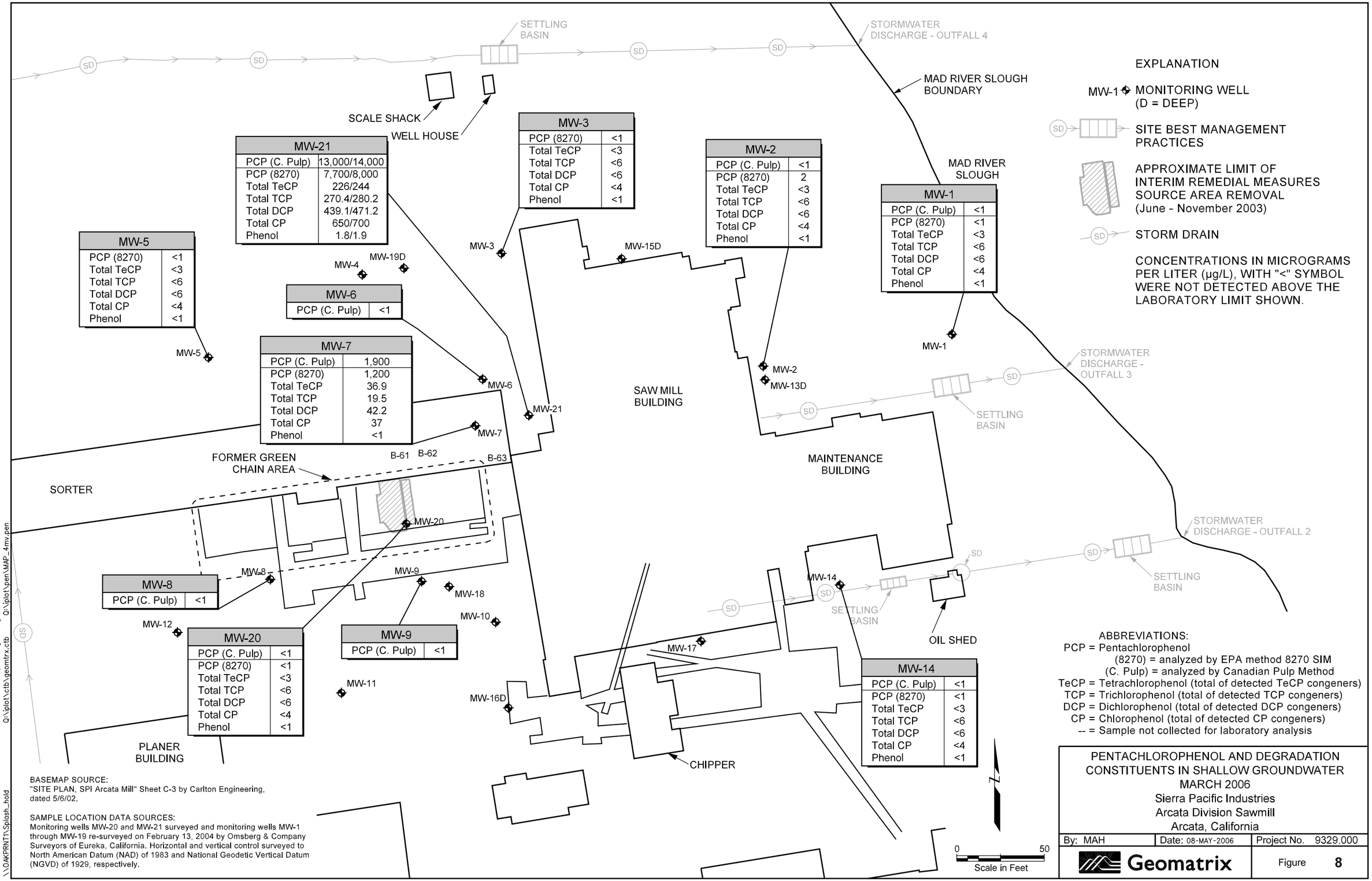
EXPLANATION

- P-24 — PIEZOMETER LOCATION
- MW-22 — MONITORING WELL LOCATION
- FORMER WASTE OIL UST EXCAVATION AREA
- VEGETATION
- PAVEMENT BOUNDARY
- DRAINAGE DITCH
- BUILDING OR STRUCTURE
- 12.64 — GROUNDWATER ELEVATION IN FEET ABOVE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.
- 11.0 — GROUNDWATER ELEVATION CONTOUR DRAWN TO APPROXIMATE THE GROUNDWATER POTENTIOMETRIC SURFACE. LINES OF EQUAL ELEVATION ARE SHOWN FOR CLARITY AND NOT MEANT TO IMPLY CERTAINTY; CONTOUR INTERVAL OF 1.0 FEET
- APPROXIMATE GROUNDWATER FLOW DIRECTION

SOURCES
Basemap:
Modified from Sheet C-3 of "Site Plan, SPI Arcata Mill," Carlton Engineers, May 6, 2002.

POTENTIOMETRIC SURFACE MAP - TRUCK SHOP AREA
MARCH 23, 2006
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

By: MAH	Date: 08-MAY-2006	Project No. 9329.000
Geomatrix		Figure 7



BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
Monitoring wells MW-20 and MW-21 surveyed and monitoring wells MW-1 through MW-19 re-surveyed on February 13, 2004 by Omsberg & Company Surveyors of Eureka, California. Horizontal and vertical control surveyed to North American Datum (NAD) of 1983 and National Geodetic Vertical Datum (NGVD) of 1929, respectively.

PENTACHLOROPHENOL AND DEGRADATION CONSTITUENTS IN SHALLOW GROUNDWATER
MARCH 2006
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

By: MAH	Date: 08-MAY-2006	Project No. 9329.000
Geomatrix		Figure 8

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Geomatrix

APPENDIX A

Field Documentation

Groundwater Monitoring and Sampling Records

Pilot Study Groundwater Sampling Records

WATER LEVEL MONITORING RECORD

GEOMATRIX

Project Name: SPI Arcata Project and Task Number: 9329.000.0 32

Date: 3/22/06 Measured by: MAH Instrument Used: ES #11

3/23/06 for MW-22 - P-25

Note: For you convenience, the following abbreviations may be used.

P = Pumping I = Inaccessible D = Dedicated Pump

ST = Steel Tape ES = Electric Sounder MP = Measuring Point WL = Water Level

Well No.	Time	MP Elevation (feet)	Water Level Below MP (feet)	Water Level Elevation (feet)	Previous Water Level Below MP	Remarks
RR	810	15.70	12.55	~~12.84~~		
MW-12	8:39	10.76	0.98			
MW-8	8:41	10.33	0.70			
MW-11	8:45	10.28	0.79			
MW-9	913	9.91	0.45			
MW-18	852	9.92	0.59			
MW-10	904	9.85	0.90			
MW-16D	1000	9.83	3.76			
MW-17	916	9.16	0.79			
MW-14	919	9.15	2.38			
MW-1	921	9.69	4.17			
MW-2	935	9.61	5.27			
MW-13D	929	9.96	3.98			
MW-15D	940	11.19	5.18			
MW-3	943	11.22	2.13			
MW-19D	955	11.06	4.26			
MW-4	938	10.74	1.55			
MW-5	1000	10.74	0.95			
MW-6	1016	9.83	0.56			
MW-20	1018	11.87	2.22			
MW-21	1004	12.89	3.79			
MW-7	1021	9.74	0.42			
RR	1030	15.70	15.80			
MW-22	9:05	15.12	4.38			
MW-23	9:06	15.11	3.99			
P-24	~~906~~ 904	15.33	2.61			
P-25	903	15.75	3.40			

3/23/06

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-1

Sample ID: MW-1-200603 Duplicate ID: ____

Sample Depth: MID SCREEN

Project and Task No: 9329.000.0 23

Project Name: SPI Arcata

Date: 3/23/06

Sampled By: MAH/MK

Method of Purging: Low Flow

Method of Sampling: Low Flow

Initial Depth to Water: 4.17

Depth to Water after Sampling: ____

Total Depth to Well: ____

Well Diameter: 2"

Total Volume Removed: 3.6 L

Time	Intake Depth	Rate ~~(gpm)~~	Cum. Vol. ~~(gal.)~~ L	Temp. (°C)	pH (units)	Specific Electrical Conductance (μS/cm)	Dissolved Oxygen (mg/l)	Redox Potential (mV; SSCE)	Remarks (color, turbidity, and sediment)
1216		400ml/min	0L	13.98	6.61	2850	4.80	-94.6	Clear, lt yellow
1220			1.6	13.60	6.53	2665	1.84	-106.4	" " "
1222			2.4	13.49	6.53	2665	1.47	-106.2	" " "
1224			3.2	13.41	6.54	2640	1.21	-104.8	" " "
1225	sample		3.6	13.43	6.54	2670	1.18	-105.1	TDS=1736mg/L

pH CALIBRATION (choose two)

Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Field Temperature °C				
Instrument Reading				

Model or Unit No.: YSI 556 Calibrated by Equipco

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION

KCL Solution (μS/cm=μmhos/cm)			
Field Temperature °C			
Instrument Reading			

Model or Unit No.:

REDOX CALIBRATION

Standard Solution	468 mV
Field Temperature °C	
Instrument Reading	

Model or Unit No.:

Ag/AgCl Electrode (SSCE)

DISSOLVED OXYGEN CALIBRATION

Salinity %	
Altitude	
Instrument Reading	

Model or Unit No.:

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-2

Sample ID: MW-2-200603 Duplicate ID: _____

Sample Depth: MID SCREEN

Project and Task No: 9329.000.0 23

Project Name: SPI Arcata

Date: 3/23/06

Sampled By: MAH/MK

Method of Purging: Low Flow

Method of Sampling: Low Flow

Initial Depth to Water: 5.27

Depth to Water after Sampling: _____

Total Depth to Well: _____

Well Diameter: 2"

Total Volume Removed: 2.8 L

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/l)	Redox Potential (mV; SSCE)	Remarks (color, turbidity, and sediment)
1404		400 mL/min	0	13.46	7.02	1360	3.50	-66.7	clear
1406			0.7L	13.04	6.42	1330	0.97	-63.6	"
1408			1.6L	12.90	6.37	1325	0.73	-65.0	"
1410			2.4L	12.77	6.36	1316	0.55	-66.3	
1411	sample		2.8L	12.76	6.36	1316	0.52	-66.6	TDS= 855 mg/L

pH CALIBRATION (choose two)					Model or Unit No.: YSI 556
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION				Model or Unit No.:
KCL Solution (µS/cm=µmhos/cm)				
Field Temperature °C				
Instrument Reading				

REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution	468 mV	Salinity %		
Field Temperature °C		Altitude		
Instrument Reading		Instrument Reading		
Model or Unit No.: Ag/AgCl Electrode (SSCE)		Model or Unit No.:		

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-3
Sample ID: MW-3-200603 Duplicate ID:
Sample Depth: MID SCREEN
Project and Task No: 9329.000.0 23
Project Name: SPI Arcata
Date: 3/23/06
Sampled By: MAH/MK
Method of Purging: Low Flow
Method of Sampling: Low Flow

Initial Depth to Water: 2.13
Depth to Water after Sampling:
Total Depth to Well:
Well Diameter: 2"
Total Volume Removed: 3.2 L

Time	Intake Depth	Rate ~~(gpm)~~ mL/min	Cum. Vol. ~~(gal.)~~ L	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/l)	Redox Potential (mV; SSCE)	Remarks (color, turbidity, and sediment)
1457		400	0	12.68	6.93	850	2.76	-66.5	Clear
1459			0.8 L	12.11	6.73	758	0.67	-83.7	"
1500			1.2 L	11.94	6.68	643	0.50	-90.9	"
1503			2.4 L	11.83	6.65	554	0.39	-97.6	"
1504			2.8 L	11.84	6.65	551	0.38	-96.6	"
1505	Sample		3.2 L	11.83	6.66	542	0.37	-95.7	TDS = 348 mg/L

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Field Temperature °C				
Instrument Reading				

Model or Unit No.: ISE 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Field Temperature °C			
Instrument Reading			

Model or Unit No.:

REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION	
Standard Solution	468 mV	Salinity %	
Field Temperature °C		Altitude	
Instrument Reading		Instrument Reading	
Model or Unit No.: Ag/AgCl Electrode (SSCE)		Model or Unit No.:	

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-5

Sample ID: MW-5-200603 Duplicate ID: _____

Sample Depth: MID SCREEN

Project and Task No: 9329.000.0 23

Project Name: SPI Arcata

Date: 3/24/06

Sampled By: MAH/MK

Method of Purging: Low Flow

Method of Sampling: Low Flow

Initial Depth to Water: 0.95

Depth to Water after Sampling: _____

Total Depth to Well: _____

Well Diameter: 2"

Total Volume Removed: 3 L

Time	Intake Depth	Rate (~~gpm~~) mL/min	Cum. Vol. (~~gal.~~) L	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/l)	Redox Potential (mV; SSCE)	Remarks (color, turbidity, and sediment)
754		300	0	10.68	6.87	204	3.96	-56.0	clear
755			0.3 L	10.88	6.74	202	1.72	-61.6	
757			0.9 L	11.09	6.69	197	[illegible]	[illegible]	
758			1.2 L	11.15	6.63	194	0.97	-62.6	
759			1.5 L	11.17	6.62	[illegible]	[illegible]	-62.6	
801			2.1 L	11.20	6.60	194	1.26	-61.6	
802			2.4 L	11.21	6.60	196	[illegible]	[illegible]	
803			2.7 L	" "	6.59	196	[illegible]	-63.1	
804	Sample		3.0 L	11.22	6.58	196	1.06	-62.6	TDS = 126 mg/L.

pH CALIBRATION (choose two)					Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		155 556
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION				Model or Unit No.:
KCL Solution (µS/cm=µmhos/cm)				
Field Temperature °C				
Instrument Reading				

REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution	468 mV	Salinity %		
Field Temperature °C		Altitude		
Instrument Reading		Instrument Reading		
Model or Unit No.: Ag/AgCl Electrode (SSCE)		Model or Unit No.:		

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-6
Sample ID: MW-06-200603 Duplicate ID: _____
Sample Depth: TOC
Project and Task No.: 9329.000.0 32
Project Name: SPI ARCATA
Date: 03/27/06
Sampled By: MAH/MK
Method of Purging: DISPOSABLE TEFLON BAILER
Method of Sampling: DISPOSABLE TEFLON BAILER

Initial Depth to Water: 0.56
Depth to Water after Sampling: _____
Total Depth to Well: 7.98'
Well Diameter: 2"
1 Casing/Borehole Volume: 1.2 g
(Circle one)
3 ~~4~~ Casing/Borehole Volumes: 3.6 g
(Circle one)
Total Casing/Borehole Volumes Removed: 4 gal

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)
1541			0	10.45	6.61	900	Clear
1542			1	9.37	6.58	910	slightly cloudy
1544			2	9.18	6.54	990	" gray slightly cloudy
1545			3	9.08	6.57	995	" " " "
1546	sample		4	9.12	6.57	994	" " " "
							[illegible]

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Temperature C			
Instrument Reading			

Model or Unit No.:

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-7
Sample ID: MW-07-060306 Duplicate ID: _____
Sample Depth: MID SCREEN
Project and Task No: 9329.000.0 23
Project Name: SPI Arcata
Date: 3/24/06
Sampled By: MAH/MK
Method of Purging: Low Flow
Method of Sampling: Low Flow

Initial Depth to Water: 0.42
Depth to Water after Sampling: _____
Total Depth to Well: _____
Well Diameter: 2"
Total Volume Removed: 6 L

Time	Intake Depth	Rate ~~(gpm)~~ mL/min	Cum. Vol. ~~(gal.)~~ L	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/l)	Redox Potential (mV; SSCE)	Remarks (color, turbidity, and sediment)
1205		400 mL/min	0	10.36	7.49	126	9.48	-46.2	Clear
1206			4 L	10.14	7.38	124	7.45	-26.1	
1208			1.2 L	10.06	7.19	123	6.28	-24	
1210			2 L	9.87	7.03	118	5.92	-7.9	
1212			2.8 L	9.82	6.95	117	5.39	-6.5	
1214			3.6 L	9.84	6.87	117	5.31	-5.9	
1217			4.8 L	9.85	6.79	117	5.27	-5.8	
1218			5.2 L	9.81	6.73	117	5.24	-5.7	
1220			5.6 L	9.80	6.68	118	5.22	-5.6	
1220	Sample		6.0 L	9.77	6.67	119	3.40	-2.1	" -05 = 55 mg/L

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Field Temperature °C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Field Temperature °C			
Instrument Reading			

Model or Unit No.:

REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION	
Standard Solution	468 mV	Salinity %	
Field Temperature °C		Altitude	
Instrument Reading		Instrument Reading	
Model or Unit No.: Ag/AgCl Electrode (SSCE)		Model or Unit No.:	

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-8

Sample ID: MW-08-200603 Duplicate ID: ____

Sample Depth: TOC

Project and Task No.: 9329.000.0 32

Project Name: SPI ARCATA

Date: 03/29/06

Sampled By: MAH/MK

Method of Purging: DISPOSABLE TEFLON BAILER

Method of Sampling: DISPOSABLE TEFLON BAILER

Initial Depth to Water: 0.70

Depth to Water after Sampling: ____

Total Depth to Well: 8.15'

Well Diameter: 2"

1 Casing/Borehole Volume: 1.2 g

(Circle one)

3 / 4 Casing/Borehole Volumes: 3.6 g

(Circle one)

Total Casing/Borehole Volumes Removed: 4.5 gal

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)
1347			0	1336	6.65	871	TDS= [illegible]
1349			2	12.52	6.09	484	slightly [illegible] yellow, clear
1350			3	12.35	6.06	857	" " "
1351			4	12.23	6.56	556	" "
1352	Sample		4.5	1223	6.51	857	" " "
							TDS= 557mg/L sample

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Temperature C			
Instrument Reading			

Model or Unit No.:

Notes:

\\sf3\ppingree$\FORMATS\WELL SAMPLING Record.doc

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-9
Sample ID: MW-09-200603 Duplicate ID: _____
Sample Depth: TOC
Project and Task No.: 9329.000.0 32
Project Name: SPI ARCATA
Date: 03/22/06
Sampled By: MAH/MK
Method of Purging: DISPOSABLE TEFLON BAILER
Method of Sampling: DISPOSABLE TEFLON BAILER

Initial Depth to Water: 0.45
Depth to Water after Sampling: _____
Total Depth to Well: 7.97'
Well Diameter: 2"
1 Casing/Borehole Volume: 1.23 g
(Circle one)
3 4 Casing/Borehole Volumes: 3.7 g
(Circle one)
Total Casing/Borehole Volumes Removed: 4 gal

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)
1406			0	11.89	6.85	920	slightly yellow, clear
1407			1	11.55	6.68	925	" " "
1408			2	11.65	6.61	922	" " "
1409			3	11.66	6.60	924	" " "
1410			4	11.69	6.60	932	TDS=605mg/L

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Temperature C			
Instrument Reading			

Model or Unit No.:

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-13D
Sample ID: MW-13D-200603 Duplicate ID: _____
Sample Depth: TOC
Project and Task No.: 9329.000.0 32
Project Name: SPI ARCATA
Date: 03/22/06
Sampled By: MAH/MK
Method of Purging: DISPOSABLE TEFLON BAILER
Method of Sampling: DISPOSABLE TEFLON BAILER

Initial Depth to Water: 3.98
Depth to Water after Sampling: _____
Total Depth to Well: 19.10'
Well Diameter: 2"
1 Casing/Borehole Volume: 2.5 g
(Circle one)
3 Casing/Borehole Volumes: 7.5 g
(Circle one)
Total Casing/Borehole Volumes Removed: .8 gal

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)
1446			0	12.72	6.30	840	clear
1449			1.5	13.04	6.27	750	"
1451			3	13.41	6.16	750	"
1452			4	13.46	6.16	795	"
1454			6	13.60	6.17	1064	"
1457			7	13.65	6.17	1125	"
1459			8	13.64	6.16	1178	"
							DO = 7.66 mg/L

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Temperature C			
Instrument Reading			

Model or Unit No.:

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-14
Initial Depth to Water: 2.39
Sample ID: _____ Duplicate ID: _____
Depth to Water after Sampling: _____
Sample Depth: MID SCREEN
Total Depth to Well: _____
Project and Task No: 9329.000.0 23
Well Diameter: 2"
Project Name: SPI Arcata
Total Volume Removed: 3.2 L
Date: 3/23/06
Sampled By: MAH/MK
Method of Purging: Low Flow
Method of Sampling: Low Flow

Time	Intake Depth	Rate ~~(gpm)~~ L/min	Cum. Liter Vol. ~~(gal.)~~	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/l)	Redox Potential (mV; SSCE)	Remarks (color, turbidity, and sediment)
1116		0.4	0	13.20	6.71	3213	2.23	-104.1	yellow, clear
1118			0.8L	12.95	6.62	3180	0.77	-106.0	" "
1120			1.6L	12.78	6.65	3095	0.47	-106.1	" "
1122			2.4L	12.80	6.64	3020	0.42	-102.7	" "
1123			3.2L	12.60	6.71	2970	0.42	-102.0	" "
1124			3.2L	12.63	6.72	2930	0.44	-101.0	" "
									TDS = 1904 mg/L

pH CALIBRATION (choose two)

Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Field Temperature °C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION

KCL Solution (µS/cm=µmhos/cm)			
Field Temperature °C			
Instrument Reading			

Model or Unit No.:

REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION	
Standard Solution	468 mV	Salinity %	
Field Temperature °C		Altitude	
Instrument Reading		Instrument Reading	
Model or Unit No.: Ag/AgCl Electrode (SSCE)		Model or Unit No.:	

Notes: 2.5 min/L = 0.4 L/min

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-15D
Sample ID: MW-15D-200603 Duplicate ID: _____
Sample Depth: TOC
Project and Task No.: 9329.000.0 32
Project Name: SPI ARCATA
Date: 03/27/06
Sampled By: MAH/MK
Method of Purging: DISPOSABLE TEFLON BAILER
Method of Sampling: DISPOSABLE TEFLON BAILER

Initial Depth to Water: 5.18
Depth to Water after Sampling: _____
Total Depth to Well: 19.90'
Well Diameter: 2"
1 Casing/Borehole Volume: 2.4 g
(Circle one)
3 4 Casing/Borehole Volumes: 7.2 g
(Circle one)
Total Casing/Borehole Volumes Removed: 7.5 g

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)
1514			0	12.84	6.93	884	clear
1516			1	12.82	6.48	866	"
1518			3	13.26	6.50	1205	clear, slightly yellow
1520			4	13.31	6.59	1250	" " "
1522			5	13.37	6.64	1280	" " "
1524			6	13.40	6.65	1290	" " "
1526			7.5	13.44	6.65	1290	DO = 8.37 mg/L " " "

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Temperature C			
Instrument Reading			

Model or Unit No.:

Notes: collect extra bottle for MS/MSD

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-16D
Sample ID: MW-16D-200603 Duplicate ID: _____
Sample Depth: TOC
Project and Task No.: 9329.000.0 32
Project Name: SPI ARCATA
Date: 03/ 27/06
Sampled By: MAH/MK
Method of Purging: DISPOSABLE TEFLON BAILER
Method of Sampling: DISPOSABLE TEFLON BAILER

Initial Depth to Water: 3.76
Depth to Water after Sampling: _____
Total Depth to Well: 19.65'
Well Diameter: 2"
1 Casing/Borehole Volume: 2.6 g
(Circle one)
3 Casing/Borehole Volumes: 7.8 g
(Circle one)
Total Casing/Borehole Volumes Removed: 8 g

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)
1418			0	12.00	~~6.99~~ 7.50	4052	amber, clear
1419			2	13.09	7.57	4170	" "
1421			3	13.78	7.61	4420	" "
1423			4	14.09	7.63	4660	
1425			5	14.49	7.62	4460	
1426			6	14.53	7.69	4420	
1428			7	14.97	7.65	4440	" "
1429			8	14.45	7.66	4420	" "
							TDS = 2872 mg/L

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Temperature C			
Instrument Reading			

Model or Unit No.:

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-20

Sample ID: MW-20-060324 Duplicate ID: _____

Sample Depth: MID SCREEN

Project and Task No: 9329.000.0 23

Project Name: SPI Arcata

Date: 3/24/06

Sampled By: MAH/MK

Method of Purging: Low Flow

Method of Sampling: Low Flow

Initial Depth to Water: 2.22

Depth to Water after Sampling: _____

Total Depth to Well: _____

Well Diameter: _____

Total Volume Removed: 3 L

Time	Intake Depth	Rate (~~gpm~~) mL/min	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/l)	Redox Potential (mV; SSCE)	Remarks (color, turbidity, and sediment)
916		300 mL/min	0	12.24	7.06	309	2.13	-16.5	Clear
918			0.6L	12.96	6.93	309	1.13	-10.0	"
920			1.2L	12.09	6.89	308	0.96	-15.7	"
921			1.8L	12.06	6.87	308	0.95	-21.4	"
922			1.6L	12.01	6.85	308	0.76	-23.9	"
923			2.4L	12.01	6.84	309	0.59	-27.9	"
924			3.0L	11.75	6.84	310	0.54	-30.6	"
925			3.7L	11.54	6.82	311	0.49	-32.1	"
926	Sample		3.0L	11.47	6.81	312	0.55	-35.0	TDS=202 mg/L

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Field Temperature °C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Field Temperature °C			
Instrument Reading			

Model or Unit No.:

REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION	
Standard Solution	468 mV	Salinity %	
Field Temperature °C		Altitude	
Instrument Reading		Instrument Reading	
Model or Unit No.: Ag/AgCl Electrode (SSCE)		Model or Unit No.:	

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-21

Sample ID: MW-21-20060323 Duplicate ID: MW-A-20060323

Sample Depth: MID SCREEN

Project and Task No: 9329.000.0 23

Project Name: SPI Arcata

Date: 3/24/06

Sampled By: MAH/MK

Method of Purging: Low Flow

Method of Sampling: Low Flow

Initial Depth to Water: 3.79

Depth to Water after Sampling:

Total Depth to Well:

Well Diameter: 2"

Total Volume Removed: 3 L

Time	Intake Depth	Rate (~~gpm~~) mL/min	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/l)	Redox Potential (mV; SSCE)	Remarks (color, turbidity, and sediment)
1047		600 mL/min	0	10.58	6.97	1041	1.33	-125.0	clear
1049			1.2L	10.15	6.66	1030	0.69	-109.9	"
1050			1.8L	10.08	6.64	1023	0.50	-107.6	"
1051			2.4L	10.01	6.64	1023	0.50	-104.1	"
1052	Sample		3.0L	10.01	6.64	1024	0.49	-103.6	TPS-666 mg/L

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Field Temperature °C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Field Temperature °C			
Instrument Reading			

Model or Unit No.:

REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION	
Standard Solution	468 mV	Salinity %	
Field Temperature °C		Altitude	
Instrument Reading		Instrument Reading	
Model or Unit No.: Ag/AgCl Electrode (SSCE)		Model or Unit No.:	

Notes: 1 min 600 mL per 1 liter = 600 mL/min

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-22
Sample ID: MW-22-200603 Duplicate ID: _____
Sample Depth: TOC
Project and Task No.: 9329.000.0 32
Project Name: SPI ARCATA
Date: 03/23/06
Sampled By: MAH
Method of Purging: DISPOSABLE TEFLON BAILER
Method of Sampling: DISPOSABLE TEFLON BA

Initial Depth to Water: 4.38
Depth to Water after Sampling: _____
Total Depth to Well: 9.31
Well Diameter: 2"
1 Casing/Borehole Volume: 0.8 g
(Circle one)
3 Casing/Borehole Volumes: 2.4 g
(Circle one)
Total Casing/Borehole Volumes Removed: 2.5 g

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)
912			1	14.10	6.05	709	Clear
913			1.5	14.06	6.06	683	"
914			2	13.98	5.97	707	"
915			2.5	13.93	5.96	725	"

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm=µmhos/cm)			
Temperature C			
Instrument Reading			

Model or Unit No.:

Notes:

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: MW-23
Sample ID: MW-23-200603 Duplicate ID: _____
Sample Depth: TOC
Project and Task No.: 9329.000.0 32
Project Name: SPI ARCATA
Date: 03/23/06
Sampled By: MAH
Method of Purging: DISPOSABLE TEFLON BAILER
Method of Sampling: DISPOSABLE TEFLON BA

Initial Depth to Water: 3.99
Depth to Water after Sampling: _____
Total Depth to Well: 8.88
Well Diameter: 2"
1 Casing/Borehole Volume: 0.8 g
(Circle one)
~~3~~ 4 Casing/Borehole Volumes: 2.4 g
(Circle one)
Total Casing/Borehole Volumes Removed: 2.75 g

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)
[illegible]			0	13.71	6.25	3490	yellow clear w/ sediment
948			1	13.35	6.47	3700	brown, cloudy
951			2	13.56	6.55	4140	" " , low recharge
958			2.5	13.70	6.60	4300	" " "
1000	sample		2.75	13.60	6.65	4120	" " "

pH CALIBRATION (choose two)

Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature C				
Instrument Reading				

Model or Unit No.: YSI 556

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION

KCL Solution (µS/cm=µmhos/cm)			
Temperature C			
Instrument Reading			

Model or Unit No.: YSI 556

Notes:

EQUIPCO RENTALS

YSI 556MPS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: BM DATE: 3/20/06

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSI-556. 14
SERIAL#: 02D12188
CUSTOMER.

CALIBRATION INFORMATION

PARAMETERS:	STANDARDS:	PASS ( )	LOT#
1. CONDUCTIVITY	1000 µMhos	✓	5006
2. pH ZERO	pH 7	✓	5216
3. pH SLOPE	pH 4	✓	5278
pH SLOPE	pH 10	✓	5158
4. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	✓	N/A
5. REDOX (ORP)	221 mV (YSI Zobell solution)	✓	030107

2100 Meridian Park Boulevard, Concord, CA. 94520 Phone (925) 609-1088 Fax (925) 609-1080

Geomatrix

APPENDIX B

Laboratory Reports and Chain-of-Custody Records for Groundwater Samples

Laboratory reports in order of appearance:

Alpha Analytical Work Order: A603729
Friedman & Bruya Project: 603279
Alpha Analytical Work Order: A603726
STL Submission (sub-lab to Alpha A603726): 720-2842-1
K-Prime Submission (sub-lab to Alpha A603726): 9984
Friedman & Bruya Project: 603278
Frontier Analytical Project: 3781

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

12 April 2006

Geomatrix Consultants
Attn: Ross Steenson
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI 9329
Work Order: A603729

Enclosed are the results of analyses for samples received by the laboratory on 03/24/06 16:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen A. Daly For Sheri L. Speaks
Project Manager

This represents an amended copy
of the original report

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 04/12/06 10:50
Project No: SPI 9329 Task 32
Project ID: SPI 9329

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603729	03/24/2006 16:20	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-200603	A603729-01	Water	03/23/06 12:25	03/24/06 16:20
MW-2-200603	A603729-02	Water	03/23/06 14:11	03/24/06 16:20
MW-6-200603	A603729-03	Water	03/22/06 15:46	03/24/06 16:20
MW-7-200603	A603729-04	Water	03/24/06 12:20	03/24/06 16:20
MW-8-200603	A603729-05	Water	03/22/06 13:52	03/24/06 16:20
MW-9-200603	A603729-06	Water	03/22/06 14:10	03/24/06 16:20
MW-13D-200603	A603729-07	Water	03/22/06 14:59	03/24/06 16:20
MW-14-200603	A603729-08	Water	03/23/06 11:24	03/24/06 16:20
MW-15D-200603	A603729-09	Water	03/22/06 15:26	03/24/06 16:20
MW-16D-200603	A603729-10	Water	03/22/06 14:29	03/24/06 16:20
MW-20-200603	A603729-11	Water	03/24/06 09:26	03/24/06 16:20
MW-21-200603	A603729-12	Water	03/24/06 10:52	03/24/06 16:20
MW-A-200603	A603729-13	Water	03/24/06 00:00	03/24/06 16:20

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Bruce Gove
Laboratory Director

4/12/2006

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 04/12/06 10:50
Project No: SPI 9329 Task 32
Project ID: SPI 9329

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603729	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-1-200603 (A603729-01)			**Sample Type: Water**			**Sampled: 03/23/06 12:25**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*118 %*	*70-124*		
MW-2-200603 (A603729-02)			**Sample Type: Water**			**Sampled: 03/23/06 14:11**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*103 %*	*70-124*		
MW-6-200603 (A603729-03)			**Sample Type: Water**			**Sampled: 03/22/06 15:46**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*82.8 %*	*70-124*		
MW-7-200603 (A603729-04)			**Sample Type: Water**			**Sampled: 03/24/06 12:20**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	**8.7 "**		**1.0**	
2,3,4,6-Tetrachlorophenol	"	"	"	03/30/06	10	**41 "**		**10**	
2,3,4,5-Tetrachlorophenol	"	"	"	03/29/06	1	**3.7 "**		**1.0**	

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4/12/2006

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 04/12/06 10:50
Project No: SPI 9329 Task 32
Project ID: SPI 9329

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603729	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-7-200603 (A603729-04)			**Sample Type: Water**			**Sampled: 03/24/06 12:20**			
Chlorinated Phenols by Canadian Pulp Method (cont'd)									
Pentachlorophenol	EnvCan	"	"	03/30/06	100	**1900 "**		**100**	
Surrogate: Tribromophenol	"	"	"	*03/29/06*		*88.8 %*	*70-124*		
MW-8-200603 (A603729-05)			**Sample Type: Water**			**Sampled: 03/22/06 13:52**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*86.8 %*	*70-124*		
MW-9-200603 (A603729-06)			**Sample Type: Water**			**Sampled: 03/22/06 14:10**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*81.6 %*	*70-124*		
MW-13D-200603 (A603729-07)			**Sample Type: Water**			**Sampled: 03/22/06 14:59**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*86.0 %*	*70-124*		
MW-14-200603 (A603729-08)			**Sample Type: Water**			**Sampled: 03/23/06 11:24**			

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4/12/2006

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 04/12/06 10:50
Project No: SPI 9329 Task 32
Project ID: SPI 9329

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603729	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-14-200603 (A603729-08)			**Sample Type: Water**			**Sampled: 03/23/06 11:24**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*90.8 %*	*70-124*		
MW-15D-200603 (A603729-09)			**Sample Type: Water**			**Sampled: 03/22/06 15:26**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*95.2 %*	*70-124*		
MW-16D-200603 (A603729-10)			**Sample Type: Water**			**Sampled: 03/22/06 14:29**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*94.8 %*	*70-124*		
MW-20-200603 (A603729-11)			**Sample Type: Water**			**Sampled: 03/24/06 09:26**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	

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Laboratory Director

4/12/2006

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 04/12/06 10:50
Project No: SPI 9329 Task 32
Project ID: SPI 9329

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603729	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-20-200603 (A603729-11)			**Sample Type: Water**			**Sampled: 03/24/06 09:26**			
Chlorinated Phenols by Canadian Pulp Method (cont'd)									
Pentachlorophenol	EnvCan	"	"	03/29/06	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*86.0 %*	*70-124*		
MW-21-200603 (A603729-12)			**Sample Type: Water**			**Sampled: 03/24/06 10:52**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	**1.5 ug/l**		**1.0**	
2,3,5,6-Tetrachlorophenol	"	"	"	03/30/06	10	**41 "**		**10**	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	**180 "**		**10**	
2,3,4,5-Tetrachlorophenol	"	"	"	03/29/06	1	**8.9 "**		**1.0**	
Pentachlorophenol	"	"	"	03/30/06	1000	**13000 "**		**1000**	
Surrogate: Tribromophenol	"	"	"	*03/29/06*		*92.4 %*	*70-124*		
MW-A-200603 (A603729-13)			**Sample Type: Water**			**Sampled: 03/24/06 00:00**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC62811	03/28/06	03/29/06	1	**1.4 ug/l**		**1.0**	
2,3,5,6-Tetrachlorophenol	"	"	"	03/30/06	10	**41 "**		**10**	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	**190 "**		**10**	
2,3,4,5-Tetrachlorophenol	"	"	"	03/29/06	1	**8.8 "**		**1.0**	
Pentachlorophenol	"	"	"	03/30/06	1000	**14000 "**		**1000**	
Surrogate: Tribromophenol	"	"	"	*03/29/06*		*94.8 %*	*70-124*		

Bruce Gove
Laboratory Director

4/12/2006

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2101 Webster Street, 12th Floor
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Report Date: 04/12/06 10:50
Project No: SPI 9329 Task 32
Project ID: SPI 9329

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603729	03/24/2006 16:20	GEOMAT	

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AC62811 - Solvent Extraction										
Blank (AC62811-BLK1)				Prepared: 03/28/06 Analyzed: 03/29/06						
2,4,6-Trichlorophenol	ND	1.0	ug/l							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	*21.7*		"	*25.0*		*86.8*	*70-124*			
LCS (AC62811-BS1)				Prepared: 03/28/06 Analyzed: 03/29/06						
2,4,6-Trichlorophenol	5.49	1.0	ug/l	5.00		110	81-120			
2,3,5,6-Tetrachlorophenol	5.98	1.0	"	5.00		120	78-108			QL-03
2,3,4,6-Tetrachlorophenol	5.68	1.0	"	5.00		114	76-108			QL-03
2,3,4,5-Tetrachlorophenol	5.52	1.0	"	5.00		110	80-116			
Pentachlorophenol	5.53	1.0	"	5.00		111	86-109			QL-03
Surrogate: Tribromophenol	*21.2*		"	*25.0*		*84.8*	*70-124*			
Matrix Spike (AC62811-MS1)	**Source: A603729-09**			Prepared: 03/28/06 Analyzed: 03/29/06						
2,4,6-Trichlorophenol	5.79	1.0	ug/l	5.00	ND	116	75-125			
2,3,5,6-Tetrachlorophenol	5.92	1.0	"	5.00	ND	118	69-115			QM-01
2,3,4,6-Tetrachlorophenol	5.37	1.0	"	5.00	ND	107	66-117			
2,3,4,5-Tetrachlorophenol	5.48	1.0	"	5.00	ND	110	70-115			
Pentachlorophenol	5.23	1.0	"	5.00	ND	105	55-124			
Surrogate: Tribromophenol	*29.7*		"	*25.0*		*119*	*70-124*			
Matrix Spike Dup (AC62811-MSD1)	**Source: A603729-09**			Prepared: 03/28/06 Analyzed: 03/29/06						
2,4,6-Trichlorophenol	5.96	1.0	ug/l	5.00	ND	119	75-125	2.89	20	
2,3,5,6-Tetrachlorophenol	6.42	1.0	"	5.00	ND	128	69-115	8.10	20	QM-01

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4/12/2006

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Project No: SPI 9329 Task 32
Project ID: SPI 9329

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603729	03/24/2006 16:20	GEOMAT	

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AC62811 - Solvent Extraction										
Matrix Spike Dup (AC62811-MSD1)	**Source: A603729-09**			Prepared: 03/28/06		Analyzed: 03/29/06				
2,3,4,6-Tetrachlorophenol	5.83	1.0	"	5.00	ND	117	66-117	8.21	20	
2,3,4,5-Tetrachlorophenol	5.99	1.0	"	5.00	ND	120	70-115	8.89	20	QM-01
Pentachlorophenol	5.65	1.0	"	5.00	ND	113	55-124	7.72	20	
Surrogate: Tribromophenol	*22.3*		"	*25.0*		*89.2*	*70-124*			

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CHEMICAL EXAMINATION REPORT

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Report Date: 04/12/06 10:50
Project No: SPI 9329 Task 32
Project ID: SPI 9329

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603729	03/24/2006 16:20	GEOMAT	

Notes and Definitions

QM-01	The spike recovery for this QC sample is outside of established control limits possibly due to a sample matrix interference.
QL-03	Although the LCS/LCSD recovery for this analyte is outside of in-house developed control limits, it is within the EPA recommended range of 70-130%.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

CHAIN-OF-CUSTODY RECORD

EUR 10008

PROJECT NAME: SPI Arcata			DATE: PAGE 1 OF 1
PROJECT NUMBER: 9329 task 32	LABORATORY NAME: Alpha	CLIENT INFORMATION: SPI Arcata	REPORTING REQUIREMENTS
RESULTS TO: Mike Kelm	LABORATORY ADDRESS: Orinda		
TURNAROUND TIME: 5d			
SAMPLE SHIPMENT METHOD: Courier	LABORATORY CONTACT: Sheri		GEOTRACKER REQUIRED (YES) NO
	LABORATORY PHONE NUMBER: 707-468-0401		SITE SPECIFIC GLOBAL ID NO: T0602393344

SAMPLERS (SIGNATURE): M H Hilliard

ANALYSES

DATE	TIME	SAMPLE NUMBER	PCB's/TPH Gasoline only	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
3/23/06	1224	MW-1-200603	X	HCL VOA	W			X		1	
3/23/06	1411	MW-2-200603								1	
3/22/06	1546	MW-6-200603								1	
3/24/06	1220	MW-7-200603								1	
3/22/06	1352	MW-8-200603								1	
3/22/06	1410	MW-9-200603								1	
3/22/06	1459	MW-10-200603							X	3	
3/23/06	1124	MW-14-200603								1	
3/22/06	1526	MW-15D-200603								1	
3/22/06	1429	MW-16D-200603								1	
3/24/06	926	MW-20-200603								1	
3/24/06	1052	MW-21-200603								1	
3/24/06		MW-A-200603								1	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: M H Hilliard	3/24/06	1300	SIGNATURE:	3/24/06	15:20
PRINTED NAME: Matt H. Hilliard			PRINTED NAME:		
COMPANY: Geomatrix			COMPANY:		
SIGNATURE: [illegible]	3/24/06	16:20	SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS: 14

SAMPLING COMMENTS:

525 Second Street, Suite 203
Eureka, California 95501-0488
Tel 707 444 7800 Fax 707 444 7848

Geomatrix

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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3012 16th Avenue West
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TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

April 11, 2006

Mike Keim, Project Manager
Geomatrix Consultants, Inc.
2101 Webster Street, 12th Floor
Oakland, CA 94612

Dear Mr. Keim:

Included are the results from the testing of material submitted on March 27, 2006 from the 9329 task 23, F&BI 603279 project. There are 21 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
GMC0411R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 27, 2006 by Friedman & Bruya, Inc. from the Geomatrix Consultants, Inc. 9329 task 23, F&BI 603279 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Geomatrix Consultants, Inc.
603279-01	MW-01-200603
603279-02	MW-02-200603
603279-03	MW-03-200603
603279-04	MW-05-200603
603279-05	MW-07-200603
603279-06	MW-14-200603
603279-07	MW-20-200603
603279-08	MW-21-200603
603279-09	MW-A-200603

The recovery of phenol and 2,3 dichlorophenol were outside the default control limits for the laboratory control samples. All other quality control requirements were acceptable.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-01-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-01
Date Analyzed:	03/30/06	Data File:	033021.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	51	16	92
Phenol-d6	39	10	91
2,4,6-Tribromophenol	102	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<1
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	<1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	<2
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	<1
2,4,5-Trichlorophenol	<1
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	<1
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	<1
2,3,4,6-Tetrachlorophenol	<1
2,3,4,5-Tetrachlorophenol	<1
2,3,5,6-Tetrachlorophenol	<1
3,4,5-Trichlorophenol	<1
Pentachlorophenol	<1

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-02-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-02
Date Analyzed:	03/28/06	Data File:	032811.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	54	16	92
Phenol-d6	36	10	91
2,4,6-Tribromophenol	99	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<1
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	<1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	<2
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	<1
2,4,5-Trichlorophenol	<1
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	<1
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	<1
2,3,4,6-Tetrachlorophenol	<1
2,3,4,5-Tetrachlorophenol	<1
2,3,5,6-Tetrachlorophenol	<1
3,4,5-Trichlorophenol	<1
Pentachlorophenol	2

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-03-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-03
Date Analyzed:	03/28/06	Data File:	032812.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	59	16	92
Phenol-d6	39	10	91
2,4,6-Tribromophenol	102	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<1
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	<1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	<2
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	<1
2,4,5-Trichlorophenol	<1
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	<1
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	<1
2,3,4,6-Tetrachlorophenol	<1
2,3,4,5-Tetrachlorophenol	<1
2,3,5,6-Tetrachlorophenol	<1
3,4,5-Trichlorophenol	<1
Pentachlorophenol	<1

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-05-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-04
Date Analyzed:	03/28/06	Data File:	032813.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	53	16	92
Phenol-d6	35	10	91
2,4,6-Tribromophenol	97	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<1
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	<1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	<2
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	<1
2,4,5-Trichlorophenol	<1
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	<1
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	<1
2,3,4,6-Tetrachlorophenol	<1
2,3,4,5-Tetrachlorophenol	<1
2,3,5,6-Tetrachlorophenol	<1
3,4,5-Trichlorophenol	<1
Pentachlorophenol	<1

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-07-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-05
Date Analyzed:	03/30/06	Data File:	033022.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	56	16	92
Phenol-d6	40	10	91
2,4,6-Tribromophenol	76	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<1
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	<1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	32 ve
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	<1
2,4,5-Trichlorophenol	4.5
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	1.2
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	38 ve
2,3,4,6-Tetrachlorophenol	9.7 ve
2,3,4,5-+2,3,5,6-Tetrachlorophenol	26 ve
3,4,5-Trichlorophenol	7.5 ve
Pentachlorophenol	99 ve

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

Note: 2,3,4,5-tetrachlorophenol and 2,3,5,6-tetrachlorophenol coelute due to the presence of high levels of material.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-07-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-05 1/5
Date Analyzed:	04/06/06	Data File:	040609.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	56	16	92
Phenol-d6	39	10	91
2,4,6-Tribromophenol	114	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<5
2-Chlorophenol	<10
2,4-Dichlorophenol	<5
2,3-Dichlorophenol	<5
2,6-Dichlorophenol	<5
3-Chlorophenol+4-Chlorophenol	33 ve
2,5-Dichlorophenol	<5
2,3,5-Trichlorophenol	<5
2,4,6-Trichlorophenol	<5
2,4,5-Trichlorophenol	<5
2,3,4-Trichlorophenol	<5
3,5-Dichlorophenol	<5
2,3,6-Trichlorophenol	<5
3,4-Dichlorophenol	40 ve
2,3,4,6-Tetrachlorophenol	8.9
2,3,4,5-Tetrachlorophenol	4 j
2,3,5,6-Tetrachlorophenol	25
3,4,5-Trichlorophenol	15
Pentachlorophenol	270 ve

Note: The sample was diluted due to the presence of high levels of material. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

j - The result is below normal reporting limits. The value reported is an estimate.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-07-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-05 1/10
Date Analyzed:	03/29/06	Data File:	032918.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	56	16	92
Phenol-d6	43	10	91
2,4,6-Tribromophenol	108	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<10
2-Chlorophenol	<20
2,4-Dichlorophenol	<10
2,3-Dichlorophenol	<10
2,6-Dichlorophenol	<10
3-Chlorophenol+4-Chlorophenol	37
2,5-Dichlorophenol	<10
2,3,5-Trichlorophenol	<10
2,4,6-Trichlorophenol	<10
2,4,5-Trichlorophenol	<10
2,3,4-Trichlorophenol	<10
3,5-Dichlorophenol	<10
2,3,6-Trichlorophenol	<10
3,4-Dichlorophenol	41
2,3,4,6-Tetrachlorophenol	<10
2,3,4,5-Tetrachlorophenol	<10
2,3,5,6-Tetrachlorophenol	24
3,4,5-Trichlorophenol	15
Pentachlorophenol	360 ve

Note: The sample was diluted due to the presence of high levels of material. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-07-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-05 1/500
Date Analyzed:	03/29/06	Data File:	032910.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	0 vo	16	92
Phenol-d6	0 vo	10	91
2,4,6-Tribromophenol	0 vo	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<500
2-Chlorophenol	<1,000
2,4-Dichlorophenol	<500
2,3-Dichlorophenol	<500
2,6-Dichlorophenol	<500
3-Chlorophenol+4-Chlorophenol	<1,000
2,5-Dichlorophenol	<500
2,3,5-Trichlorophenol	<500
2,4,6-Trichlorophenol	<500
2,4,5-Trichlorophenol	<500
2,3,4-Trichlorophenol	<500
3,5-Dichlorophenol	<500
2,3,6-Trichlorophenol	<500
3,4-Dichlorophenol	<500
2,3,4,6-Tetrachlorophenol	<500
2,3,4,5-Tetrachlorophenol	<500
2,3,5,6-Tetrachlorophenol	<500
3,4,5-Trichlorophenol	<500
Pentachlorophenol	1,200

Note: The sample was diluted due to the presence of high levels of material. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

vo - The value reported fell outside the control limits established for this analyte.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-14-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-06
Date Analyzed:	03/28/06	Data File:	032814.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	61	16	92
Phenol-d6	41	10	91
2,4,6-Tribromophenol	96	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<1
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	<1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	<2
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	<1
2,4,5-Trichlorophenol	<1
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	<1
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	<1
2,3,4,6-Tetrachlorophenol	<1
2,3,4,5-Tetrachlorophenol	<1
2,3,5,6-Tetrachlorophenol	<1
3,4,5-Trichlorophenol	<1
Pentachlorophenol	<1

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-20-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-07
Date Analyzed:	03/29/06	Data File:	032905.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	57	16	92
Phenol-d6	40	10	91
2,4,6-Tribromophenol	96	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<1
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	<1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	<2
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	<1
2,4,5-Trichlorophenol	<1
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	<1
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	<1
2,3,4,6-Tetrachlorophenol	<1
2,3,4,5-Tetrachlorophenol	<1
2,3,5,6-Tetrachlorophenol	<1
3,4,5-Trichlorophenol	<1
Pentachlorophenol	<1

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-21-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-08
Date Analyzed:	03/30/06	Data File:	033024.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	56	16	92
Phenol-d6	42	10	91
2,4,6-Tribromophenol	124	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	1.8
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	2.1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	370 ve
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	1.1
2,4,5-Trichlorophenol	9.3 ve
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	17 ve
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	310 ve
2,3,4,6-Tetrachlorophenol	31 ve
2,3,4,5-+-2,3,5,6-Tetrachlorophenol	140 ve
3,4,5-Trichlorophenol	210 ve
Pentachlorophenol	240 J, ve

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

Note: 2,3,4,5-tetrachlorophenol and 2,3,5,6-tetrachlorophenol coelute due to the presence of high levels of material.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-21-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-08 1/10
Date Analyzed:	03/29/06	Data File:	032916.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	56	16	92
Phenol-d6	42	10	91
2,4,6-Tribromophenol	104	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<10
2-Chlorophenol	<20
2,4-Dichlorophenol	<10
2,3-Dichlorophenol	<10
2,6-Dichlorophenol	<10
3-Chlorophenol+4-Chlorophenol	620 ve
2,5-Dichlorophenol	<10
2,3,5-Trichlorophenol	<10
2,4,6-Trichlorophenol	<10
2,4,5-Trichlorophenol	<10
2,3,4-Trichlorophenol	<10
3,5-Dichlorophenol	17
2,3,6-Trichlorophenol	<10
3,4-Dichlorophenol	410 ve
2,3,4,6-Tetrachlorophenol	39
2,3,4,5-Tetrachlorophenol	17
2,3,5,6-Tetrachlorophenol	180 ve
3,4,5-Trichlorophenol	270 ve
Pentachlorophenol	880 ve

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-21-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-08 1/100
Date Analyzed:	03/29/06	Data File:	032912.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	0 vo	16	92
Phenol-d6	0 vo	10	91
2,4,6-Tribromophenol	0 vo	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<100
2-Chlorophenol	<200
2,4-Dichlorophenol	<100
2,3-Dichlorophenol	<100
2,6-Dichlorophenol	<100
3-Chlorophenol+4-Chlorophenol	650
2,5-Dichlorophenol	<100
2,3,5-Trichlorophenol	<100
2,4,6-Trichlorophenol	<100
2,4,5-Trichlorophenol	<100
2,3,4-Trichlorophenol	<100
3,5-Dichlorophenol	<100
2,3,6-Trichlorophenol	<100
3,4-Dichlorophenol	420
2,3,4,6-Tetrachlorophenol	<100
2,3,4,5-Tetrachlorophenol	<100
2,3,5,6-Tetrachlorophenol	170
3,4,5-Trichlorophenol	260
Pentachlorophenol	2,900 ve

Note: The sample was diluted due to the presence of high levels of material. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-21-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-08 1/2.000
Date Analyzed:	03/29/06	Data File:	032908.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	0 vo	16	92
Phenol-d6	0 vo	10	91
2,4,6-Tribromophenol	0 vo	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<2,000
2-Chlorophenol	<4,000
2,4-Dichlorophenol	<2,000
2,3-Dichlorophenol	<2,000
2,6-Dichlorophenol	<2,000
3-Chlorophenol+4-Chlorophenol	<4,000
2,5-Dichlorophenol	<2,000
2,3,5-Trichlorophenol	<2,000
2,4,6-Trichlorophenol	<2,000
2,4,5-Trichlorophenol	<2,000
2,3,4-Trichlorophenol	<2,000
3,5-Dichlorophenol	<2,000
2,3,6-Trichlorophenol	<2,000
3,4-Dichlorophenol	<2,000
2,3,4,6-Tetrachlorophenol	<2,000
2,3,4,5-Tetrachlorophenol	<2,000
2,3,5,6-Tetrachlorophenol	<2,000
3,4,5-Trichlorophenol	<2,000
Pentachlorophenol	7,700

Note: The sample was diluted due to the presence of high levels of material. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

vo - The value reported fell outside the control limits established for this analyte.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-A-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-09
Date Analyzed:	03/30/06	Data File:	033023.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	55	16	92
Phenol-d6	40	10	91
2,4,6-Tribromophenol	112	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	1.9
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	2.2
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	290 ve
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	1.2
2,4,5-Trichlorophenol	9.0 ve
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	18 ve
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	290 ve
2,3,4,6-Tetrachlorophenol	33 ve
2,3,4,5-+2,3,5,6-Tetrachlorophenol	150 ve
3,4,5-Trichlorophenol	190 ve
Pentachlorophenol	300 J, ve

J - The result for this analyte in the laboratory control samples is out of control limits. The reported concentration is an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

Note: 2,3,4,5-tetrachlorophenol and 2,3,5,6-tetrachlorophenol coelute due to the presence of high levels of material.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-A-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-09 1/10
Date Analyzed:	03/29/06	Data File:	032917.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	54	16	92
Phenol-d6	41	10	91
2,4,6-Tribromophenol	105	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<10
2-Chlorophenol	<20
2,4-Dichlorophenol	<10
2,3-Dichlorophenol	<10
2,6-Dichlorophenol	<10
3-Chlorophenol+4-Chlorophenol	650 ve
2,5-Dichlorophenol	<10
2,3,5-Trichlorophenol	<10
2,4,6-Trichlorophenol	<10
2,4,5-Trichlorophenol	<10
2,3,4-Trichlorophenol	<10
3,5-Dichlorophenol	19
2,3,6-Trichlorophenol	<10
3,4-Dichlorophenol	440 ve
2,3,4,6-Tetrachlorophenol	44
2,3,4,5-Tetrachlorophenol	20
2,3,5,6-Tetrachlorophenol	190 ve
3,4,5-Trichlorophenol	280 ve
Pentachlorophenol	920 ve

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-A-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-09 1/100
Date Analyzed:	04/04/06	Data File:	040407.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	0 vo	16	92
Phenol-d6	0 vo	10	91
2,4,6-Tribromophenol	0 vo	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<100
2-Chlorophenol	<200
2,4-Dichlorophenol	<100
2,3-Dichlorophenol	<100
2,6-Dichlorophenol	<100
3-Chlorophenol+4-Chlorophenol	700
2,5-Dichlorophenol	<100
2,3,5-Trichlorophenol	<100
2,4,6-Trichlorophenol	<100
2,4,5-Trichlorophenol	<100
2,3,4-Trichlorophenol	<100
3,5-Dichlorophenol	<100
2,3,6-Trichlorophenol	<100
3,4-Dichlorophenol	450
2,3,4,6-Tetrachlorophenol	<100
2,3,4,5-Tetrachlorophenol	<100
2,3,5,6-Tetrachlorophenol	180
3,4,5-Trichlorophenol	270
Pentachlorophenol	3,100 ve

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	MW-A-200603	Client:	Geomatrix Consultants, Inc.
Date Received:	03/27/06	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	603279-09 1/2.000
Date Analyzed:	03/29/06	Data File:	032909.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	0 vo	16	92
Phenol-d6	0 vo	10	91
2,4,6-Tribromophenol	0 vo	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<2,000
2-Chlorophenol	<4,000
2,4-Dichlorophenol	<2,000
2,3-Dichlorophenol	<2,000
2,6-Dichlorophenol	<2,000
3-Chlorophenol+4-Chlorophenol	<4,000
2,5-Dichlorophenol	<2,000
2,3,5-Trichlorophenol	<2,000
2,4,6-Trichlorophenol	<2,000
2,4,5-Trichlorophenol	<2,000
2,3,4-Trichlorophenol	<2,000
3,5-Dichlorophenol	<2,000
2,3,6-Trichlorophenol	<2,000
3,4-Dichlorophenol	<2,000
2,3,4,6-Tetrachlorophenol	<2,000
2,3,4,5-Tetrachlorophenol	<2,000
2,3,5,6-Tetrachlorophenol	<2,000
3,4,5-Trichlorophenol	<2,000
Pentachlorophenol	8,000

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

vo - The value reported fell outside the control limits established for this analyte.

Analysis For Semivolatile Compounds By EPA Method 8270C Sim

Client Sample ID:	Method Blank	Client:	Geomatrix Consultants, Inc.
Date Received:	Not Applicable	Project:	9329 task 23, F&BI 603279
Date Extracted:	03/27/06	Lab ID:	06-520mb
Date Analyzed:	03/28/06	Data File:	032810.D
Matrix:	Water	Instrument:	GCMS3
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
2-Fluorophenol	75	16	92
Phenol-d6	50	10	91
2,4,6-Tribromophenol	102	50	150

Compounds:	Concentration ug/L (ppb)
Phenol	<1
2-Chlorophenol	<2
2,4-Dichlorophenol	<1
2,3-Dichlorophenol	<1
2,6-Dichlorophenol	<1
3-Chlorophenol+4-Chlorophenol	<2
2,5-Dichlorophenol	<1
2,3,5-Trichlorophenol	<1
2,4,6-Trichlorophenol	<1
2,4,5-Trichlorophenol	<1
2,3,4-Trichlorophenol	<1
3,5-Dichlorophenol	<1
2,3,6-Trichlorophenol	<1
3,4-Dichlorophenol	<1
2,3,4,6-Tetrachlorophenol	<1
2,3,4,5-Tetrachlorophenol	<1
2,3,5,6-Tetrachlorophenol	<1
3,4,5-Trichlorophenol	<1
Pentachlorophenol	<1

Date of Report: 04/11/06
Date Received: 03/27/06
Project: 9329 task 23, F&BI 603279

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	µg/L (ppb)	7.5	34 vo	33 vo	70-130	2
2-Chlorophenol	µg/L (ppb)	15	78	80	70-130	2
2,3-Dichlorophenol	µg/L (ppb)	7.5	65 vo	69 vo	70-130	5
2,6-Dichlorophenol	µg/L (ppb)	7.5	73	78	70-130	6
3-+4-Chlorophenol	µg/L (ppb)	15	70	71	70-130	1
2,5-Dichlorophenol	µg/L (ppb)	7.5	77	82	70-130	6
2,3,5-Trichloropheno	µg/L (ppb)	7.5	87	92	70-130	5
2,4,6-Trichloropheno	µg/L (ppb)	7.5	82	89	70-130	8
2,4,5-Trichloropheno	µg/L (ppb)	7.5	83	89	70-130	7
2,3,4-Trichloropheno	µg/L (ppb)	7.5	79	85	70-130	7
3,5-Dichlorophenol	µg/L (ppb)	7.5	72	76	70-130	5
2,3,6-Trichloropheno	µg/L (ppb)	7.5	79	85	70-130	7
3,4-Dichlorophenol	µg/L (ppb)	7.5	85	87	70-130	3
2,3,4,6-Tetrachlorop	µg/L (ppb)	7.5	76	81	70-130	6
2,3,4,5-Tetrachlorop	µg/L (ppb)	7.5	73	77	70-130	5
2,3,5,6-Tetrachlorop	µg/L (ppb)	7.5	76	81	70-130	7
3,4,5-Trichloropheno	µg/L (ppb)	7.5	79	84	70-130	6
Pentachlorophenol	µg/L (ppb)	7.5	63	63	23-99	1

vo - The value reported fell outside the control limits established for this analyte.

CHAIN-OF-CUSTODY RECORD 603279 ME 03/27/06 EUR 10011 BOS

PROJECT NAME: SPI Arcata			DATE: 3/24/06 PAGE 1 OF
PROJECT NUMBER: 9329 task 23	LABORATORY NAME: Friedman + Bruya	CLIENT INFORMATION: Sierra Pacific Industries	REPORTING REQUIREMENTS:
RESULTS TO: Mike Keim	LABORATORY ADDRESS: 3012 16th Ave W	Arcata D.U.S.107	
TURNAROUND TIME: Std	Seattle, WA 98119		
SAMPLE SHIPMENT METHOD: FedEx	LABORATORY CONTACT: Mike		GEOTRACKER REQUIRED (YES) NO
	LABORATORY PHONE NUMBER: 206-285-8282		SITE SPECIFIC GLOBAL ID NO. T0602393544

SAMPLERS (SIGNATURE): Matt Hillyard

ANALYSES: Chlorinated Pesticides by EPA 8270C SIM

Lab ID	DATE	TIME	SAMPLE NUMBER	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
01 A-D	3/23/06	1225	MW-01-200603	1-Liter Amber	W			X		4	
02 A-D	3/23/06	1411	MW-02-200603							4	
03 A-D	3/23/06	1505	MW-03-200603							4	
04 A-D	3/24/06	804	MW-05-200603							4	
05 A-D	3/24/06	1220	MW-07-200603							4	
06 A-D	3/23/06	1124	MW-14-200603							4	
07 A-D	3/24/06	926	MW-20-200603							4	
08 A-D	3/24/06	1052	MW-21-200607							4	
09 A-D	3/24/06		MW-A-200603							4	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	TOTAL NUMBER OF CONTAINERS: 36
SIGNATURE: Matt Hillyard	3/24/06	1545	SIGNATURE: Nhan Phan	3/27/06	0830	SAMPLING COMMENTS:
PRINTED NAME: Matt Hillyard			PRINTED NAME: Nhan Phan			
COMPANY: Geomatrix			COMPANY: FEBI			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			
SIGNATURE:			SIGNATURE:			
PRINTED NAME:			PRINTED NAME:			
COMPANY:			COMPANY:			

525 Second Street, Suite 203
Eureka, California 95501-0488
Tel 707.444.7800 Fax 707.444.7848

Geomatrix

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

03 April 2006

Geomatrix Consultants
Attn: Mike Keim
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI - (GeoMatrix)
Work Order: A603726

Enclosed are the results of analyses for samples received by the laboratory on 03/24/06 16:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sheri Speaks

Sheri L. Speaks
Project Manager

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-200603	A603726-01	Water	03/23/06 12:25	03/24/06 16:20
MW-2-200603	A603726-02	Water	03/23/06 14:11	03/24/06 16:20
MW-3-200603	A603726-03	Water	03/23/06 15:05	03/24/06 16:20
MW-5-200603	A603726-04	Water	03/24/06 08:04	03/24/06 16:20
MW-7-200603	A603726-05	Water	03/24/06 12:20	03/24/06 16:20
MW-14-200603	A603726-06	Water	03/23/06 11:24	03/24/06 16:20
MW-20-200603	A603726-07	Water	03/24/06 09:26	03/24/06 16:20
MW-21-200603	A603726-08	Water	03/24/06 10:52	03/24/06 16:20
MW-A-200603	A603726-09	Water	03/24/06 00:00	03/24/06 16:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/3/2006

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-1-200603 (A603726-01)			**Sample Type: Water**			**Sampled: 03/23/06 12:25**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**40 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**64** "	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**830 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**830** "	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/29/06	4	**38.0** "	**4.00**	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	50	**330 mg/l**	**25**	
Nitrate as N	"	"	"	03/24/06	1	ND "	0.20	
Sulfate as SO4	"	"	"	"	"	**0.99** "	**0.50**	
MW-2-200603 (A603726-02)			**Sample Type: Water**			**Sampled: 03/23/06 14:11**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**77 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**39** "	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**480 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**480** "	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/29/06	2	**31.7** "	**2.00**	

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Bruce Gove
Laboratory Director

4/3/2006

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-2-200603 (A603726-02)			**Sample Type: Water**			**Sampled: 03/23/06 14:11**		
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	20	**100 mg/l**	**10**	
Nitrate as N	"	"	"	03/24/06	1	ND "	0.20	
Sulfate as SO4	"	"	"	"	"	ND "	0.50	
MW-3-200603 (A603726-03)			**Sample Type: Water**			**Sampled: 03/23/06 15:05**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**24 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**18 "**	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**210 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**210 "**	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/29/06	"	**12.3 "**	**1.00**	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	5	**25 mg/l**	**2.5**	
Nitrate as N	"	"	"	03/24/06	1	ND "	0.20	
Sulfate as SO4	"	"	"	"	"	**2.2 "**	**0.50**	
MW-5-200603 (A603726-04)			**Sample Type: Water**			**Sampled: 03/24/06 08:04**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**9.3 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**14 "**	**1.0**	

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Bruce Gove
Laboratory Director

4/3/2006

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-5-200603 (A603726-04)			**Sample Type: Water**			**Sampled: 03/24/06 08:04**		
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**71 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**71 "**	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/28/06	"	**5.54 "**	**1.00**	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	1	**8.6 mg/l**	**0.50**	
Nitrate as N	"	"	"	"	"	ND "	0.20	
Sulfate as SO4	"	"	"	"	"	ND "	0.50	
MW-7-200603 (A603726-05)			**Sample Type: Water**			**Sampled: 03/24/06 12:20**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**4.3 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**2.2 "**	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**15 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**15 "**	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/29/06	4	**43.7 "**	**4.00**	

Bruce L. Gove
Laboratory Director

4/3/2006

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-7-200603 (A603726-05)			**Sample Type: Water**			**Sampled: 03/24/06 12:20**		
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	5	**21 mg/l**	**2.5**	
Nitrate as N	"	"	"	03/24/06	1	ND "	0.20	
Sulfate as SO4	"	"	"	"	"	**4.0 "**	**0.50**	
MW-14-200603 (A603726-06)			**Sample Type: Water**			**Sampled: 03/23/06 11:24**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**29 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**56 "**	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**1000 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**1000 "**	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/29/06	8	**71.3 "**	**8.00**	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	50	**410 mg/l**	**25**	
Nitrate as N	"	"	"	03/24/06	1	ND "	0.20	
Sulfate as SO4	"	"	"	03/24/06	"	ND "	0.50	
MW-20-200603 (A603726-07)			**Sample Type: Water**			**Sampled: 03/24/06 09:26**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**27 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**15 "**	**1.0**	

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Bruce L. Gove
Laboratory Director

4/3/2006

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-20-200603 (A603726-07)			**Sample Type: Water**			**Sampled: 03/24/06 09:26**		
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**140 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**140 "**	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/29/06	"	**5.11 "**	**1.00**	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	1	**8.6 mg/l**	**0.50**	
Nitrate as N	"	"	"	"	"	ND "	0.20	
Sulfate as SO4	"	"	"	"	"	**2.6 "**	**0.50**	
MW-21-200603 (A603726-08)			**Sample Type: Water**			**Sampled: 03/24/06 10:52**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**28 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**47 "**	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**360 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**360 "**	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/29/06	"	**17.7 "**	**1.00**	

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-21-200603 (A603726-08)			**Sample Type: Water**			**Sampled: 03/24/06 10:52**		
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	10	**84 mg/l**	**5.0**	
Nitrate as N	"	"	"	03/24/06	1	ND "	0.20	
Sulfate as SO4	"	"	"	"	"	ND "	0.50	
MW-A-200603 (A603726-09)			**Sample Type: Water**			**Sampled: 03/24/06 00:00**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AC62708	03/27/06	03/30/06	1	**27 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**47 "**	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Bicarbonate Alkalinity as CaCO3	SM2320B	AC62503	03/25/06	03/25/06	1	**360 mg/l**	**5.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	5.0	
Total Alkalinity as CaCO3	"	"	"	"	"	**360 "**	**5.0**	
Total Organic Carbon	EPA 415.1	AC62710	03/27/06	03/29/06	"	**18.1 "**	**1.00**	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AC62412	03/24/06	03/24/06	10	**84 mg/l**	**5.0**	
Nitrate as N	"	"	"	03/25/06	1	ND "	0.20	
Sulfate as SO4	"	"	"	"	"	ND "	0.50	

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Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AC62708 - EPA 3005A										
Blank (AC62708-BLK1)				Prepared: 03/27/06 Analyzed: 03/30/06						
Calcium	ND	1.0	mg/l							
Magnesium	ND	1.0	"							
LCS (AC62708-BS1)				Prepared: 03/27/06 Analyzed: 03/30/06						
Calcium	10.1	1.0	mg/l	10.0		101	85-115			
Magnesium	9.98	1.0	"	10.0		99.8	85-115			
LCS Dup (AC62708-BSD1)				Prepared: 03/27/06 Analyzed: 03/30/06						
Calcium	10.3	1.0	mg/l	10.0		103	85-115	1.96	20	
Magnesium	10.2	1.0	"	10.0		102	85-115	2.18	20	
Duplicate (AC62708-DUP1)		Source: A603726-01		Prepared: 03/27/06 Analyzed: 03/30/06						
Calcium	38.8	1.0	mg/l		40			3.05	20	
Magnesium	62.4	1.0	"		64			2.53	20	
Matrix Spike (AC62708-MS1)		Source: A603726-01		Prepared: 03/27/06 Analyzed: 03/30/06						
Calcium	48.8	1.0	mg/l	10.0	40	88.0	70-130			
Magnesium	73.9	1.0	"	10.0	64	99.0	70-130			
Matrix Spike Dup (AC62708-MSD1)		Source: A603726-01		Prepared: 03/27/06 Analyzed: 03/30/06						
Calcium	51.8	1.0	mg/l	10.0	40	118	70-130	5.96	20	
Magnesium	75.7	1.0	"	10.0	64	117	70-130	2.41	20	

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2101 Webster Street, 12th Floor
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Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AC62503 - General Preparation										
Duplicate (AC62503-DUP1)		**Source: A603726-07**		Prepared & Analyzed: 03/25/06						
Total Alkalinity as CaCO3	145	5.0	mg/l		140			3.51	20	
Bicarbonate Alkalinity as CaCO3	145	5.0	"		140			3.51	20	
Carbonate Alkalinity as CaCO3	ND	5.0	"		ND				20	
Hydroxide Alkalinity as CaCO3	ND	5.0	"		ND				20	
Batch AC62710 - General Prep										
Blank (AC62710-BLK1)				Prepared: 03/27/06	Analyzed: 03/28/06					
Total Organic Carbon	ND	1.00	mg/l							
LCS (AC62710-BS1)				Prepared: 03/27/06	Analyzed: 03/28/06					
Total Organic Carbon	9.98	1.00	mg/l	10.0		99.8	85-115			
LCS Dup (AC62710-BSD1)				Prepared: 03/27/06	Analyzed: 03/28/06					
Total Organic Carbon	9.95	1.00	mg/l	10.0		99.5	85-115	0.301	20	
Duplicate (AC62710-DUP1)		**Source: A603719-01**		Prepared: 03/27/06	Analyzed: 03/28/06					
Total Organic Carbon	1.09	1.00	mg/l		1.13			3.60	20	
Matrix Spike (AC62710-MS1)		**Source: A603719-02**		Prepared: 03/27/06	Analyzed: 03/28/06					
Total Organic Carbon	21.1	2.00	mg/l	20.0	ND	100	70-130			
Matrix Spike Dup (AC62710-MSD1)		**Source: A603719-02**		Prepared: 03/27/06	Analyzed: 03/28/06					
Total Organic Carbon	21.4	2.00	mg/l	20.0	ND	102	70-130	1.41	20	

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Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Anions by EPA Method 300.0 - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AC62412 - General Preparation										
Blank (AC62412-BLK1)				Prepared & Analyzed: 03/24/06						
Nitrate as N	ND	0.20	mg/l							
Sulfate as SO4	ND	0.50	"							
Chloride	ND	0.50	"							
LCS (AC62412-BS1)				Prepared & Analyzed: 03/24/06						
Sulfate as SO4	8.58	0.50	mg/l	8.00		107	90-110			
Chloride	3.05	0.50	"	3.00		102	90-110			
Nitrate as N	1.0	0.20	"	1.00		100	90-110			
LCS Dup (AC62412-BSD1)				Prepared & Analyzed: 03/24/06						
Nitrate as N	1.0	0.20	mg/l	1.00		100	90-110	0.00	20	
Chloride	3.06	0.50	"	3.00		102	90-110	0.327	20	
Sulfate as SO4	8.56	0.50	"	8.00		107	90-110	0.233	10	
Duplicate (AC62412-DUP1)		Source: A603726-04		Prepared & Analyzed: 03/24/06						
Sulfate as SO4	ND	1.0	mg/l		ND				20	
Nitrate as N	ND	0.40	"		ND				20	
Chloride	8.92	1.0	"		8.6			3.65	20	
Matrix Spike (AC62412-MS1)		Source: A603726-04		Prepared & Analyzed: 03/24/06						
Sulfate as SO4	20.8	1.0	mg/l	20.0	ND	104	80-120			
Chloride	13.5	1.0	"	5.00	8.6	98.0	80-120			
Nitrate as N	5.1	0.40	"	5.00	ND	102	80-120			
Matrix Spike Dup (AC62412-MSD1)		Source: A603726-04		Prepared & Analyzed: 03/24/06						
Nitrate as N	5.2	0.40	mg/l	5.00	ND	104	80-120	1.94	20	
Sulfate as SO4	20.8	1.0	"	20.0	ND	104	80-120	0.00	10	
Chloride	13.5	1.0	"	5.00	8.6	98.0	80-120	0.00	20	

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Attn: Mike Keim

Report Date: 04/03/06 09:13
Project No: 9329 Task 23
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A603726	03/24/2006 16:20	GEOMAT	

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

SEVERN TRENT STL

ANALYTICAL REPORT

Job Number: 720-2842-1

Job Description: Metals - A603726

For:
Alpha Analytical, Inc.
208 Mason St.
Ukiah, CA 95482

Attention: Sheri Speaks

Dimple Sharma
Project Manager I
dsharma@stl-inc.com
04/05/2006

Project Manager: Dimple Sharma

METHOD SUMMARY

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Inductively Coupled Plasma - Atomic Emission Spectrometry	STL-SF	SW846 6010B	
Acid Digestion of Waters for Total Recoverable or	STL-SF		SW846 3005A
Sample Filtration performed in the Field	STL-SF		FIELD_FLTRD

LAB REFERENCES:

STL-SF = STL-San Francisco

METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-2842-1	MW-1-200603	Water	03/23/2006 1225	03/28/2006 0920
720-2842-2	MW-2-200603	Water	03/23/2006 1411	03/28/2006 0920
720-2842-3	MW-3-200603	Water	03/23/2006 1505	03/28/2006 0920
720-2842-4	MW-5-200603	Water	03/24/2006 0804	03/28/2006 0920
720-2842-5	MW-7-200603	Water	03/24/2006 1220	03/28/2006 0920
720-2842-6	MW-14-200603	Water	03/24/2006 1124	03/28/2006 0920
720-2842-7	MW-20-200603	Water	03/24/2006 0926	03/28/2006 0920
720-2842-8	MW-21-200603	Water	03/24/2006 1052	03/28/2006 0920
720-2842-9	MW-A-200603	Water	03/24/2006 0000	03/28/2006 0920

Client: Alpha Analytical, Inc. Job Number: 720-2842-1

Client Sample ID: MW-1-200603

Lab Sample ID:	720-2842-1	Date Sampled:	03/23/2006 1225
Client Matrix:	Water	Date Received:	03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method:	6010B	Analysis Batch: 720-7174		Instrument ID:	Varian ICP
Preparation:	3005A	Prep Batch: 720-7068		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	03/30/2006 1428			Final Weight/Volume:	42.8 mL
Date Prepared:	03/28/2006 1321				

Analyte	Result (mg/L)	Qualifier	RL
Iron	61		0.20
Manganese	4.3		0.0050

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Client Sample ID: MW-2-200603

Lab Sample ID:	720-2842-2	Date Sampled:	03/23/2006 1411
Client Matrix:	Water	Date Received:	03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method:	6010B	Analysis Batch: 720-7174		Instrument ID:	Varian ICP
Preparation:	3005A	Prep Batch: 720-7068		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	03/30/2006 1432			Final Weight/Volume:	42.8 mL
Date Prepared:	03/28/2006 1321				

Analyte	Result (mg/L)	Qualifier	RL
Iron	58		0.20
Manganese	5.2		0.0050

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Client Sample ID: MW-3-200603

Lab Sample ID:	720-2842-3	Date Sampled:	03/23/2006 1505
Client Matrix:	Water	Date Received:	03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method:	6010B	Analysis Batch: 720-7174		Instrument ID:	Varian ICP
Preparation:	3005A	Prep Batch: 720-7068		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	03/30/2006 1436			Final Weight/Volume:	42.8 mL
Date Prepared:	03/28/2006 1321				

Analyte	Result (mg/L)	Qualifier	RL
Iron	25		0.20
Manganese	1.9		0.0050

Client: Alpha Analytical, Inc. Job Number: 720-2842-1

Client Sample ID: MW-5-200603

Lab Sample ID:	720-2842-4	Date Sampled:	03/24/2006 0804
Client Matrix:	Water	Date Received:	03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method:	6010B	Analysis Batch: 720-7174		Instrument ID:	Varian ICP
Preparation:	3005A	Prep Batch: 720-7068		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	03/30/2006 1440			Final Weight/Volume:	42.8 mL
Date Prepared:	03/28/2006 1321				

Analyte	Result (mg/L)	Qualifier	RL
Iron	2.2		0.20
Manganese	0.29		0.0050

Client: Alpha Analytical, Inc. Job Number: 720-2842-1

Client Sample ID: MW-7-200603

Lab Sample ID:	720-2842-5	Date Sampled:	03/24/2006 1220
Client Matrix:	Water	Date Received:	03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method:	6010B	Analysis Batch: 720-7276		Instrument ID:	Varian ICP
Preparation:	3005A	Prep Batch: 720-7232		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	04/04/2006 1447			Final Weight/Volume:	42.8 mL
Date Prepared:	04/03/2006 1349				

Analyte	Result (mg/L)	Qualifier	RL
Iron	0.91		0.20
Manganese	0.23		0.0050

Client: Alpha Analytical, Inc. Job Number: 720-2842-1

Client Sample ID: MW-14-200603

Lab Sample ID: 720-2842-6 Date Sampled: 03/27/2006 1124
Client Matrix: Water Date Received: 03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method: 6010B Analysis Batch: 720-7276 Instrument ID: Varian ICP
Preparation: 3005A Prep Batch: 720-7232 Lab File ID: N/A
Dilution: 10 Initial Weight/Volume: 40 mL
Date Analyzed: 04/04/2006 1450 Final Weight/Volume: 42.8 mL
Date Prepared: 04/03/2006 1349

Analyte	Result (mg/L)	Qualifier	RL
Iron	38		2.0
Manganese	0.98		0.050

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Client Sample ID: MW-20-200603

Lab Sample ID:	720-2842-7	Date Sampled:	03/24/2006 0926
Client Matrix:	Water	Date Received:	03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method:	6010B	Analysis Batch: 720-7276		Instrument ID:	Varian ICP
Preparation:	3005A	Prep Batch: 720-7232		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	04/04/2006 1454			Final Weight/Volume:	42.8 mL
Date Prepared:	04/03/2006 1349				

Analyte	Result (mg/L)	Qualifier	RL
Iron	0.62		0.20
Manganese	0.92		0.0050

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Client Sample ID: MW-21-200603

Lab Sample ID:	720-2842-8	Date Sampled:	03/24/2006 1052
Client Matrix:	Water	Date Received:	03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method:	6010B	Analysis Batch: 720-7276		Instrument ID:	Varian ICP
Preparation:	3005A	Prep Batch: 720-7232		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	04/04/2006 1458			Final Weight/Volume:	42.8 mL
Date Prepared:	04/03/2006 1349				

Analyte	Result (mg/L)	Qualifier	RL
Iron	70		0.20
Manganese	2.7		0.0050

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Client Sample ID: MW-A-200603

Lab Sample ID:	720-2842-9	Date Sampled:	03/24/2006 0000
Client Matrix:	Water	Date Received:	03/28/2006 0920

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry-Dissolved

Method:	6010B	Analysis Batch: 720-7276		Instrument ID:	Varian ICP
Preparation:	3005A	Prep Batch: 720-7232		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	04/04/2006 1501			Final Weight/Volume:	42.8 mL
Date Prepared:	04/03/2006 1349				

Analyte	Result (mg/L)	Qualifier	RL
Iron	70		0.20
Manganese	2.7		0.0050

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Alpha Analytical, Inc. Job Number: 720-2842-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
Metals				
Prep Batch: 720-7068				
LCS 720-7043/2-B	Lab Control Spike	Water	3005A	
LCSD 720-7043/3-B	Lab Control Spike Duplicate	Water	3005A	
MB 720-7043/1-B	Method Blank	Water	3005A	
720-2842-1	MW-1-200603	Water	3005A	
720-2842-2	MW-2-200603	Water	3005A	
720-2842-3	MW-3-200603	Water	3005A	
720-2842-4	MW-5-200603	Water	3005A	
Prep Batch: 720-7232				
LCS 720-7131/2-B	Lab Control Spike	Water	3005A	
LCSD 720-7131/3-B	Lab Control Spike Duplicate	Water	3005A	
MB 720-7131/1-B	Method Blank	Water	3005A	
720-2842-5	MW-7-200603	Water	3005A	
720-2842-6	MW-14-200603	Water	3005A	
720-2842-7	MW-20-200603	Water	3005A	
720-2842-8	MW-21-200603	Water	3005A	
720-2842-9	MW-A-200603	Water	3005A	
Analysis Batch:720-7174				
LCS 720-7043/2-B	Lab Control Spike	Water	6010B	720-7068
LCSD 720-7043/3-B	Lab Control Spike Duplicate	Water	6010B	720-7068
MB 720-7043/1-B	Method Blank	Water	6010B	720-7068
720-2842-1	MW-1-200603	Water	6010B	720-7068
720-2842-2	MW-2-200603	Water	6010B	720-7068
720-2842-3	MW-3-200603	Water	6010B	720-7068
720-2842-4	MW-5-200603	Water	6010B	720-7068
Analysis Batch:720-7276				
LCS 720-7131/2-B	Lab Control Spike	Water	6010B	720-7232
LCSD 720-7131/3-B	Lab Control Spike Duplicate	Water	6010B	720-7232
MB 720-7131/1-B	Method Blank	Water	6010B	720-7232
720-2842-5	MW-7-200603	Water	6010B	720-7232
720-2842-6	MW-14-200603	Water	6010B	720-7232
720-2842-7	MW-20-200603	Water	6010B	720-7232
720-2842-8	MW-21-200603	Water	6010B	720-7232
720-2842-9	MW-A-200603	Water	6010B	720-7232

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Method Blank - Batch: 720-7068

Method: 6010B
Preparation: 3005A
Dissolved

Lab Sample ID: MB 720-7043/1-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/30/2006 1257
Date Prepared: 03/28/2006 1321

Analysis Batch: 720-7174
Prep Batch: 720-7068
Units: mg/L

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 42.8 mL

Analyte	Result	Qual	RL
Iron	ND		0.20
Manganese	ND		0.0050

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-7068

Method: 6010B
Preparation: 3005A
Dissolved

LCS Lab Sample ID: LCS 720-7043/2-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/30/2006 1300
Date Prepared: 03/28/2006 1321

Analysis Batch: 720-7174
Prep Batch: 720-7068
Units: mg/L

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 42.8 mL

LCSD Lab Sample ID: LCSD 720-7043/3-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/30/2006 1304
Date Prepared: 03/28/2006 1321

Analysis Batch: 720-7174
Prep Batch: 720-7068
Units: mg/L

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 42.8 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Iron	104	102	80 - 120	2	20		
Manganese	105	103	80 - 120	3	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Method Blank - Batch: 720-7232

Method: 6010B
Preparation: 3005A
Dissolved

Lab Sample ID: MB 720-7131/1-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 04/04/2006 1332
Date Prepared: 04/03/2006 1349

Analysis Batch: 720-7276
Prep Batch: 720-7232
Units: mg/L

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 42.8 mL

Analyte	Result	Qual	RL
Iron	ND		0.20
Manganese	ND		0.0050

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-7232

Method: 6010B
Preparation: 3005A
Dissolved

LCS Lab Sample ID: LCS 720-7131/2-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 04/04/2006 1335
Date Prepared: 04/03/2006 1349

Analysis Batch: 720-7276
Prep Batch: 720-7232
Units: mg/L

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 42.8 mL

LCSD Lab Sample ID: LCSD 720-7131/3-B
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 04/04/2006 1339
Date Prepared: 04/03/2006 1349

Analysis Batch: 720-7276
Prep Batch: 720-7232
Units: mg/L

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 40 mL
Final Weight/Volume: 42.8 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Iron	106	101	80 - 120	4	20		
Manganese	106	102	80 - 120	4	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

720-2842

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

A603726

40120

SENDING LABORATORY:	RECEIVING LABORATORY:
Alpha Analytical Laboratories, Inc.	Severn Trent Labs - SF
208 Mason St.	1220 Quarry Ln.
Ukiah, CA 95482	Pleasanton, CA 94566
Phone: (707)468-0401	Phone :(925) 484-1919
Fax: (707)468-5267	Fax: -
Project Manager: Sheri L. Speaks	**Terms: Net 30**

Analysis	Due	Expires	Comments
A603726-01 MW-1-200603 [Water] Sampled 03/23/06 12:25 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/19/06 12:25	
Containers Supplied:			
A603726-02 MW-2-200603 [Water] Sampled 03/23/06 14:11 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/19/06 14:11	
Containers Supplied:			
A603726-03 MW-3-200603 [Water] Sampled 03/23/06 15:05 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/19/06 15:05	
Containers Supplied:			
A603726-04 MW-5-200603 [Water] Sampled 03/24/06 08:04 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/20/06 08:04	
Containers Supplied:			
A603726-05 MW-7-200603 [Water] Sampled 03/24/06 12:20 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/20/06 12:20	
Containers Supplied:			
A603726-06 MW-14-200603 [Water] Sampled 03/24/06 11:24 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/20/06 11:24	
Containers Supplied:			

Sheri Speaks 3/27/06

Released By	Date	Received By	Date
		STL SF	
Released By	Date	Received By	Date
		Jean Mullen	3-28-06 920

720-2842

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

A603726

Analysis	Due	Expires	Comments
A603726-07 MW-20-200603 [Water] Sampled 03/24/06 09:26 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/20/06 09:26	
Containers Supplied:			
A603726-08 MW-21-200603 [Water] Sampled 03/24/06 10:52 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/20/06 10:52	
Containers Supplied:			
A603726-09 MW-A-200603 [Water] Sampled 03/24/06 00:00 Pacific			
Fe+2/Mn+2 SUB	04/07/06 12:00	09/20/06 00:00	
Containers Supplied:			

☐ *Report to State*

System Name: ________ Employed by: ________

User ID: ________ Sampler: ________

System Number: ________

Need EDF - global number T0602393314

S.Speaks@Alpha-Labs.com

Released By	Date	Received By	Date
Shari Speaks	3-27-06		
		Joan Mullen STCSF	3-28-06 0920

Released By / Date / Received By / Date

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Alpha Analytical, Inc.

Job Number: 720-2842-1

Login Number: 2842

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

METHOD: DISSOLVED GASES
REFFERENCE: RSK175

SAMPLE ID: MW-1-200603
LAB NO: 54677
BATCH ID: 040506W01
SAMPLE TYPE: WATER
DATE SAMPLED: 03/23/06
TIME SAMPLED: 12:25
DATE RECEIVED: 03/27/06
DATE ANALYZED: 04/05/06
UNITS: µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	2440

APPROVED BY: dw
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

METHOD: DISSOLVED GASES
REFFERENCE: RSK175

SAMPLE ID: MW-2-200603
LAB NO: 54678
BATCH ID: 040506W01
SAMPLE TYPE: WATER
DATE SAMPLED: 03/23/06
TIME SAMPLED: 14:11
DATE RECEIVED: 03/27/06
DATE ANALYZED: 04/05/06
UNITS: µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	1980

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

METHOD: DISSOLVED GASES
REFFERENCE: RSK175

SAMPLE ID: MW-3-200603
LAB NO: 54679
BATCH ID: 040506W01
SAMPLE TYPE: WATER
DATE SAMPLED: 03/23/06
TIME SAMPLED: 15:05
DATE RECEIVED: 03/27/06
DATE ANALYZED: 04/05/06
UNITS: µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	2840

APPROVED BY: dlr
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

METHOD: DISSOLVED GASES
REFFERENCE: RSK175

SAMPLE ID: MW-5-200603
LAB NO: 54680
BATCH ID: 040506W01
SAMPLE TYPE: WATER
DATE SAMPLED: 03/24/06
TIME SAMPLED: 8:04
DATE RECEIVED: 03/27/06
DATE ANALYZED: 04/05/06
UNITS: µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	932

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

METHOD: DISSOLVED GASES
REFFERENCE: RSK175

SAMPLE ID: MW-7-200603
LAB NO: 54681
BATCH ID: 040506W01
SAMPLE TYPE: WATER
DATE SAMPLED: 03/24/06
TIME SAMPLED: 12:20
DATE RECEIVED: 03/27/06
DATE ANALYZED: 04/05/06
UNITS: µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	1370

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT:	9984	**SAMPLE ID:**	MW-14-200603
CLIENT PROJECT:	A603726	**LAB NO:**	54682
		BATCH ID:	040506W01
		SAMPLE TYPE:	WATER
		DATE SAMPLED:	03/27/06
		TIME SAMPLED:	11:24
		DATE RECEIVED:	03/27/06
METHOD:	DISSOLVED GASES	**DATE ANALYZED:**	04/05/06
REFFERENCE:	RSK175	**UNITS:**	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	2640

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT:	9984	**SAMPLE ID:**	MW-20-200603
CLIENT PROJECT:	A603726	**LAB NO:**	54683
		BATCH ID:	040506W01
		SAMPLE TYPE:	WATER
		DATE SAMPLED:	03/24/06
		TIME SAMPLED:	9:26
		DATE RECEIVED:	03/27/06
METHOD:	DISSOLVED GASES	**DATE ANALYZED:**	04/05/06
REFFERENCE:	RSK175	**UNITS:**	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	ND

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT:	9984	**SAMPLE ID:**	MW-21-200603
CLIENT PROJECT:	A603726	**LAB NO:**	54684
		BATCH ID:	040506W01
		SAMPLE TYPE:	WATER
		DATE SAMPLED:	03/24/06
		TIME SAMPLED:	10:52
		DATE RECEIVED:	03/27/06
METHOD:	DISSOLVED GASES	**DATE ANALYZED:**	04/05/06
REFFERENCE:	RSK175	**UNITS:**	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	5110

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT:	9984	**SAMPLE ID:**	MW-A-200603
CLIENT PROJECT:	A603726	**LAB NO:**	54685
		BATCH ID:	040506W01
		SAMPLE TYPE:	WATER
		DATE SAMPLED:	03/24/06
		TIME SAMPLED:	N/A
		DATE RECEIVED:	03/27/06
METHOD:	DISSOLVED GASES	**DATE ANALYZED:**	04/05/06
REFFERENCE:	RSK175	**UNITS:**	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	5750

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.

LABORATORY QC REPORT

METHOD: DISSOLVED GASSES
REFFERENCE: RSK175

SAMPLE ID: L040506W01
DUPLICATE ID: D040506W01
BLANK ID: B040506W01
BATCH ID: 040506W01
ANALYZED DATE: 04/05/06
SAMPLE TYPE: WATER
UNITS: µg/L

ACCURACY (MATRIX SPIKE)

PARAMETER	SPIKE ADDED	SAMPLE RESULT	SPIKE RESULT	RECOVERY (%)	LIMITS (%)
METHANE	72.9	ND	61.7	85	50-150
ETHENE	128	ND	127	99	50-150
ETHANE	136	ND	122	90	50-150
PROPANE	200	ND	192	96	50-150

PRECISION (SPIKE DUPLICATE)

COMPOUND NAM	REPORTING LIMIT	SPIKE RESULT	DUPLICATE RESULT	RPD (%)	LIMITS (%)
METHANE	1.58	61.7	63.9	3.6	±30
ETHENE	2.38	127	127	0.3	±30
ETHANE	1.63	122	126	3.1	±30
PROPANE	2.21	192	200	3.7	±30

METHOD BLANK

COMPOUND NAM	CAS NO.	REPORTING LIMIT	METHOD LIMIT	SAMPLE CONC
METHANE	74-82-8	1.58	0.331	ND
ETHENE	74-85-1	2.38	0.547	ND
ETHANE	74-84-0	1.63	0.278	ND
PROPANE	74-84-1	2.21	0.353	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED MDL, NA - NOT APPLICABLE OR AVAILABLE, MRL - METHOD REPORTING LIMIT, MDL - METHOD DETECTION LIMIT.

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-1-200603
LAB NO:	54677
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/23/06
TIME SAMPLED:	12:25
BATCH ID:	040506W01
DATE ANALYZED:	4/5/2006
UNITS:	µg/L

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	260000

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-2-200603
LAB NO:	54678
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/23/06
TIME SAMPLED:	14:11
BATCH ID:	040506W01
DATE ANALYZED:	4/5/2006
UNITS:	µg/L

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	272000

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-3-200603
LAB NO:	54679
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/23/06
TIME SAMPLED:	15:05
BATCH ID:	040506W01
DATE ANALYZED:	4/5/2006
UNITS:	µg/L

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	84500

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-5-200603
LAB NO:	54680
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/24/06
TIME SAMPLED:	8:04
BATCH ID:	040506W01

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED:	4/5/2006
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	24900

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-7-200603
LAB NO:	54681
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/24/06
TIME SAMPLED:	12:20
BATCH ID:	040506W01

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED:	4/5/2006
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	15000

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-14-200603
LAB NO:	54682
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/24/06
TIME SAMPLED:	11:24
BATCH ID:	040506W01
DATE ANALYZED:	4/5/2006
UNITS:	µg/L

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	310000

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: dw
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-20-200603
LAB NO:	54683
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/24/06
TIME SAMPLED:	9:26
BATCH ID:	040506W01
DATE ANALYZED:	4/5/2006
UNITS:	µg/L

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	25100

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID: MW-21-200603
LAB NO: 54684
SAMPLE TYPE: WATER
DATE SAMPLED: 03/24/06
TIME SAMPLED: 10:52
BATCH ID: 040506W01

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED: 4/5/2006
UNITS: µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	156000

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT. NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-A-200603
LAB NO:	54685
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/24/06
TIME SAMPLED:	N/A
BATCH ID:	040506W01
DATE ANALYZED:	4/5/2006
UNITS:	µg/L

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	150000

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

K PRIME, INC.
LABORATORY QC REPORT

METHOD: DISSOLVED GASSES
REFFERENCE: RSK175

SAMPLE ID:	L040506W01
DUPLICATE ID:	D040506W01
BLANK ID:	B040506W01
BATCH ID:	040506W01
ANALYZED DATE:	04/05/06
SAMPLE TYPE:	WATER
UNITS:	µg/L

ACCURACY (MATRIX SPIKE)

PARAMETER	SPIKE ADDED	SAMPLE RESULT	SPIKE RESULT	RECOVERY (%)	LIMITS (%)
CARBON DIOXIDE	2000	ND	1440	72	60-140

PRECISION (SPIKE DUPLICATE)

COMPOUND NAME	REPORTING LIMIT	SPIKE RESULT	DUPLICATE RESULT	RPD (%)	LIMITS (%)
CARBON DIOXIDE	165	1440	1203	17.9	±50

METHOD BLANK

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
MRL - METHOD REPORTING LIMIT
MDL - STATISTICAL METHOD DETECTION LIMIT
"J" - INDICATES REPORTED VALUE AS AN ESTIMATED CONCENTRATION ABOVE THE MDL AND BELOW THE METHOD REPORTING LIMIT.
"B" - INDICATES COMPOUND COMMONLY FOUND IN METHOD BLANK ABOVE THE MDL BUT BELOW THE METHOD REPORTING LIMIT.

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A603726

SAMPLE ID:	MW-A-200603
LAB NO:	54685
SAMPLE TYPE:	WATER
DATE SAMPLED:	03/24/06
TIME SAMPLED:	N/A
BATCH ID:	040506W01
DATE ANALYZED:	4/5/2006
UNITS:	µg/L

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	150000

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 4/21/06

CHAIN-OF-CUSTODY RECORD

EUR 10005

PROJECT NAME: SPI Arcata			DATE: 3/24/06 PAGE 1 OF 3
PROJECT NUMBER: 1329 task 23	LABORATORY NAME: Alpha	CLIENT INFORMATION: Sierra Pacific Industries	REPORTING REQUIREMENTS:
RESULTS TO: Mike Keim	LABORATORY ADDRESS: Ukiah	Arcata Division	
TURNAROUND TIME: Std			
SAMPLE SHIPMENT METHOD: Courier	LABORATORY CONTACT: Sheri Speaks		GEOTRACKER REQUIRED (YES) NO
	LABORATORY PHONE NUMBER: 707-468-0401		SITE SPECIFIC GLOBAL ID NO. T0602393344

SAMPLERS (SIGNATURE): Matt Hilyard

ANALYSES

DATE	TIME	SAMPLE NUMBER	NO_3, SO_4, Cl, alkalinity	Ca, Mg	Fe^{2+}, Mn, total	methane + CO_2	TOC	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
3/23/06	1225	MW-1-200603	X					1/2 gal plastic	W			X		1	
				X				1 pint plastic			HNO_3			1	
					X			1 pint plastic		X	HNO_3			1	
						X		40 mL VOA						3	
							X	40 mL VOA			H_3PO_4			2	
3/23/06	1411	MW-2-200603	X					1/2 Gal plastic						1	
				X				1 pint plastic			HNO_3			1	
					X			1 pint plastic		X	HNO_3			1	
						X		40 mL VOA						3	
							X	40 mL VOA			H_3PO_4			2	
3/23/06	1505	MW-3-200603	X					1/2 gal plastic						1	
				X				1 pint plastic						1	
					X			1 pint plastic						1	
						X		40 mL VOA						3	
							X	40 mL VOA			H_3PO_4			2	
														24	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: Matt Hilyard	3/24/06	1320	SIGNATURE:	3/24/06	1320
PRINTED NAME: Matt Hilyard			PRINTED NAME:		
COMPANY: Geomatrix			COMPANY:		
SIGNATURE: D Morton	3/24/06	1620	SIGNATURE: Sheri Speaks	3/24/06	1620
PRINTED NAME:			PRINTED NAME: Sheri Speaks		
COMPANY:			COMPANY: Alpha		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS: 24

SAMPLING COMMENTS:

525 Second Street, Suite 203
Eureka, California 95501-0488
Tel 707.444.7800 Fax 707.444.7848

Geomatrix

CHAIN-OF-CUSTODY RECORD

EUR 10006

PROJECT NAME: SPI Arcata			DATE: 3/24/06 PAGE 2 OF 3
PROJECT NUMBER: 9329 task # 2-3	LABORATORY NAME: Alpha	CLIENT INFORMATION: SPI Arcata	REPORTING REQUIREMENTS:
RESULTS TO: Mike Kelm	LABORATORY ADDRESS: Ukiah		
TURNAROUND TIME: Std			
SAMPLE SHIPMENT METHOD: courier	LABORATORY CONTACT: Sheri		GEOTRACKER REQUIRED (YES) NO
	LABORATORY PHONE NUMBER: 707-468-0401		SITE SPECIFIC GLOBAL ID NO: See pg 1

SAMPLERS (SIGNATURE): Matt Hilbert

ANALYSES

DATE	TIME	SAMPLE NUMBER	NO_3, Cl, alkalinity	Ca, Mg	Fe^{2+}, total Mn	Methane, CO_2	TOC	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
3/24/06	804	MW-5-200603	X					½ gal plastic	W			X		1	
				X				1 pint plastic			HNO_3			1	
					X			1 pint plastic		X	HNO_3			1	
						X		40 mL VOA						3	
							X	40 mL VOA			H_3PO_4			2	
3/24/06	1220	MW-7-200603	X					½ gal plastic						1	
				X				1 pint plastic			HNO_3			1	
					X			1 pint plastic		X	HNO_3			1	
						X		40 mL VOA						3	
							X	40 mL VOA			H_3PO_4			2	
3/23/06	1124	MW-14-200603	X					½ gal plastic						1	
				X				1 pint plastic			HNO_3			1	
					X			1 pint plastic		X	HNO_3			1	
						X		40 mL VOA						3	
							X	40 mL VOA			H_3PO_4			2	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: Matt Hilbert	3/24/06	1500	SIGNATURE:	3/24/06	13:00
PRINTED NAME: Matt A. Hilbert			PRINTED NAME:		
COMPANY: Geomatrix			COMPANY:		
SIGNATURE: D. Morton	3/24/06	16:20	SIGNATURE:	3/24/06 16:20	
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS: 24

SAMPLING COMMENTS:

525 Second Street, Suite 203
Eureka, California 95501-0488
Tel 707.444.7800 Fax 707.444.7848

Geomatrix

CHAIN-OF-CUSTODY RECORD

EUR 10007

PROJECT NAME: SPI Arcata		DATE: 3/24/06	PAGE 3 OF 3
PROJECT NUMBER: 9329 task 23	LABORATORY NAME: Alpha	CLIENT INFORMATION: SPI Arcata	REPORTING REQUIREMENTS:
RESULTS TO: Mike Kein	LABORATORY ADDRESS: Ukiah		
TURNAROUND TIME: std			
SAMPLE SHIPMENT METHOD: courier	LABORATORY CONTACT: Sheri		GEOTRACKER REQUIRED: YES (circled) NO
	LABORATORY PHONE NUMBER: 707-468-0401		SITE SPECIFIC GLOBAL ID NO.: see pg 1

SAMPLERS (SIGNATURE):

ANALYSES

DATE	TIME	SAMPLE NUMBER	NO3, SO4, Cl, Alkalinity	Ca, Mg	Fe2+, total Mn	methane, CO2	TOC	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
3/24/06	926	MW-20-200603	X					1/2 gal plastic	W			X		1	
				X				1 pint plastic			HNO3			1	
					X			1 pint plastic		X	HNO3			1	
						X		40 mL VOA						3	
							X	40 mL VOA			H3PO4			2	
3/24/06	1052	MW-21-200603	X					1/2 gal plastic						1	
				X				1 pint plastic			HNO3			1	
					X			1 pint plastic		X	HNO3			1	
						X		40 mL VOA						3	
							X	40 mL VOA			H3PO4			2	
3/24/06		MW-A-200603	X					1/2 gal plastic						1	
				X				1 pint plastic			HNO3			1	
					X			1 pint plastic		X	HNO3			1	
						X		40 mL VOA						3	
							X	40 mL VOA	W		H3PO4	X		2	

TOTAL NUMBER OF CONTAINERS: 24

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: Matt Hillyard	3/24/06	1700	SIGNATURE: [signature]	3/24/06	15:00
PRINTED NAME: Matt Hillyard			PRINTED NAME:		
COMPANY: Geomatrix			COMPANY:		
SIGNATURE: D. Norton	3/24/06	16:20	SIGNATURE: Sheri Speaks	3/24/06	1620
PRINTED NAME:			PRINTED NAME: Sheri Speaks		
COMPANY:			COMPANY: Alpha		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

SAMPLING COMMENTS:

525 Second Street, Suite 203
Eureka, California 95501-0488
Tel 707.444.7800 Fax 707.444.7848

Geomatrix

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

April 5, 2006

Mike Keim, Project Manager
Geomatrix Consultants, Inc.
2101 Webster Street, 12th Floor
Oakland, CA 94612

Dear Mr. Keim:

Included are the results from the testing of material submitted on March 27, 2006 from the 9329 task 32, F&BI 603278 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
GMC0405R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 27, 2006 by Friedman & Bruya, Inc. from the Geomatrix Consultants, Inc. 9329 task 32, F&BI 603278 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Geomatrix Consultants, Inc.
603278-01	MW-22-200603
603278-02	MW-23-200603

All quality control requirements were acceptable.

Date of Report: 04/05/06
Date Received: 03/27/06
Project: 9329 task 32, F&BI 603278
Date Extracted: 03/29/06
Date Analyzed: 03/30/06

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE XYLENES AND TPH AS GASOLINE USING EPA METHODS 8021B AND 8015M

Results Reported as µg/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range (C_6-C_{10})	Surrogate (% Recovery) (Limit 69-150)
MW-22-200603 603278-01	<1	16	<1	<3	66	104
MW-23-200603 603278-02	<1	<1	<1	<3	<50	106
Method Blank	<1	<1	<1	<3	<50	105

Note: The reporting limit for gasoline is between the MDL and PQL.

Date of Report: 04/05/06
Date Received: 03/27/06
Project: 9329 task 32, F&BI 603278
Date Extracted: 03/28/06
Date Analyzed: 04/01/06

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING EPA METHOD 8015M
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as µg/L (ppb)

Sample ID Laboratory ID	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-132)
MW-22-200603 603278-01	<175	102
MW-23-200603 603278-02	<175	107
Method Blank	<175	132

Note: The reporting limit for motor oil is between the MDL and PQL.

Date of Report: 04/05/06
Date Received: 03/27/06
Project: 9329 task 32, F&BI 603278
Date Extracted: 03/28/06
Date Analyzed: 04/01/06

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING EPA METHOD 8015M
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as µg/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Surrogate (% Recovery) (Limit 68-143)
MW-22-200603 603278-01	<50	102
MW-23-200603 603278-02	<50	107
Method Blank	<50	132

Date of Report: 04/05/06
Date Received: 03/27/06
Project: 9329 task 32, F&BI 603278

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHODS 8021B AND 8015M

Laboratory Code: 603278-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	µg/L (ppb)	<1	<1	nm
Toluene	µg/L (ppb)	<1	<1	nm
Ethylbenzene	µg/L (ppb)	<1	<1	nm
Xylenes	µg/L (ppb)	<3	<3	nm
Gasoline	µg/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	µg/L (ppb)	50	102	69-119
Toluene	µg/L (ppb)	50	92	70-123
Ethylbenzene	µg/L (ppb)	50	98	78-112
Xylenes	µg/L (ppb)	150	93	74-112
Gasoline	µg/L (ppb)	1,000	90	63-129

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

Date of Report: 04/05/06
Date Received: 03/27/06
Project: 9329 task 32, F&BI 603278

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING EPA METHOD 8015M

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Motor Oil	µg/L (ppb)	5,000	94	96	74-139	2

Date of Report: 04/05/06
Date Received: 03/27/06
Project: 9329 task 32, F&BI 603278

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING EPA METHOD 8015M

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel	µg/L (ppb)	2,500	111	120	74-139	8

CHAIN-OF-CUSTODY RECORD

EUR 10013

PROJECT NAME: SPI Arcata		DATE: 3/24/06	PAGE 1 OF 1
PROJECT NUMBER: 9329 task 32	LABORATORY NAME: Friedman + Bruya	CLIENT INFORMATION: Sierra Pacific Industries	REPORTING REQUIREMENTS:
RESULTS TO: Mike Keim	LABORATORY ADDRESS: 3012 16th Ave W	Arcata Division	
TURNAROUND TIME: Std			
SAMPLE SHIPMENT METHOD: FedEx	LABORATORY CONTACT:		GEOTRACKER REQUIRED YES NO
	LABORATORY PHONE NUMBER: 206-285-8282		SITE SPECIFIC GLOBAL ID NO. T0602301628

SAMPLERS (SIGNATURE): Matt Hilyard

ANALYSES

Lab ID	DATE	TIME	SAMPLE NUMBER	TPH-D/MO Silica gel	TPH-gas/BTEX	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
01 A-C	3/23/06	915	MW-22-200603	X		1-Liter Amber	W			X		3	
01 A-F	↓	↓	↓		X	40mL VOA	↓		HCL	↓		3	
02 A-C	3/23/06	1000	MW-23-200603	X		1-Liter Amber						3	
02 A-F	↓	↓	↓		X	40-mL VOA	↓		HCL	↓		3	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: Matt Hilyard	3/24/06	1545	SIGNATURE:	3/27/06	0830
PRINTED NAME: Matt Hilyard			PRINTED NAME: Dhan Dhan		
COMPANY: Geomatrix			COMPANY: FEBI		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS: 12

SAMPLING COMMENTS:

525 Second Street, Suite 203
Eureka, California 95501-0488
Tel 707.444.7800 Fax 707.444.7848

Geomatrix

FRONTIER
ANALYTICAL LABORATORY

April 6, 2006

FAL Project ID: 3781

Ms. Sheri Speaks
Alpha Analytical Laboratories, Inc.
208 Mason Street
Ukiah, CA 95482

Dear Ms. Speaks,

Enclosed are the results for Frontier Analytical Laboratory project **3781**. This corresponds to your subcontract order # A603727. The nine aqueous samples received on 3/29/06 were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. A matrix spike and matrix spike duplicate (MS/MSD) were analyzed on sample 3781-004-SA (Alpha ID; A603727-04) at no additional charge. Alpha Analytical Laboratories, Inc. requested a turnaround time of ten business days for project **3781**.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, a qualifier reference guide, a ML/MDL form and the analytical results. The Sample Receipt section contains your original chain of custody, our sample login form and a sample photo. The EDD you requested has been sent to you via email.

If you have any questions regarding project **3781**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Bradley B. Silverbush
Director of Operations

FRONTIER ANALYTICAL LABORATORY
5172 Hillsdale Circle • El Dorado Hills, CA 95762
Tel (916) 934-0900 • Fax (916) 934-0999
www.frontieranalytical.com

Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: **3781**

Received on: **03/29/2006** Project Due: **04/13/2006** Storage: **R1**

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
3781-001-SA	1	A603727	A603727-01	EPA 1613 D/F	Aqueous	03/23/2006	12:25 pm	03/23/2007
3781-002-SA	1	A603727	A603727-02	EPA 1613 D/F	Aqueous	03/23/2006	02:11 pm	03/23/2007
3781-003-SA	1	A603727	A603727-03	EPA 1613 D/F	Aqueous	03/23/2006	03:05 pm	03/23/2007
3781-004-SA	1	A603727	A603727-04	EPA 1613 D/F	Aqueous	03/24/2006	08:04 am	03/24/2007
3781-005-SA	1	A603727	A603727-05	EPA 1613 D/F	Aqueous	03/24/2006	12:20 pm	03/24/2007
3781-006-SA	1	A603727	A603727-06	EPA 1613 D/F	Aqueous	03/24/2006	11:24 am	03/24/2007
3781-007-SA	1	A603727	A603727-07	EPA 1613 D/F	Aqueous	03/24/2006	09:26 am	03/24/2007
3781-008-SA	1	A603727	A603727-08	EPA 1613 D/F	Aqueous	03/24/2006	10:52 am	03/24/2007
3781-009-SA	1	A603727	A603727-09	EPA 1613 D/F	Aqueous	03/24/2006	NP	03/24/2007

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FRONTIER
ANALYTICAL LABORATORY

Qualifier Reference Guide

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J‡	Analyte concentration is below calibration range
M	Maximum possible concentration
NP	Not Provided
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection
-	Analyte Not Detected
+	Spike levels were inappropriate versus the levels in the sample

‡ "J" values are equivalent to DNQ (detected but not quantified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

EPA Method 1613/8290 Aqueous MDL
(SPE Extraction)

FRONTIER ANALYTICAL LABORATORY

Analyte	ML	MDL
2,3,7,8-TCDD	5.00	0.488
1,2,3,7,8-PeCDD	25.0	0.503
1,2,3,4,7,8-HxCDD	25.0	0.681
1,2,3,6,7,8-HxCDD	25.0	0.689
1,2,3,7,8,9-HxCDD	25.0	0.793
1,2,3,4,6,7,8-HpCDD	25.0	0.714
OCDD	50.0	2.15
2,3,7,8-TCDF	5.00	0.435
1,2,3,7,8-PeCDF	25.0	0.572
2,3,4,7,8-PeCDF	25.0	0.543
1,2,3,4,7,8-HxCDF	25.0	0.291
1,2,3,6,7,8-HxCDF	25.0	0.285
1,2,3,7,8,9-HxCDF	25.0	0.317
2,3,4,6,7,8-HxCDF	25.0	0.276
1,2,3,4,6,7,8-HpCDF	25.0	0.373
1,2,3,4,7,8,9-HpCDF	25.0	0.540
OCDF	50.0	1.01

Project **3665**, extracted 1/30/06; analyzed 2/6/06. Based on a 1.0 Liter sample, pg/L.

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-001-MB
Client ID: Method Blank
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.51		-					
1,2,3,7,8-PeCDD	-	2.82		-					
1,2,3,4,7,8-HxCDD	-	5.17		-					
1,2,3,6,7,8-HxCDD	-	5.26		-	Total Tetra-Dioxins	-	1.51		0
1,2,3,7,8,9-HxCDD	-	6.69		-	Total Penta-Dioxins	-	2.82		0
1,2,3,4,6,7,8-HpCDD	-	5.82		-	Total Hexa-Dioxins	-	6.69		0
OCDD	-	8.39		-	Total Hepta-Dioxins	-	5.82		0
2,3,7,8-TCDF	-	1.97		-					
1,2,3,7,8-PeCDF	-	3.61		-					
2,3,4,7,8-PeCDF	-	3.31		-					
1,2,3,4,7,8-HxCDF	-	2.27		-					
1,2,3,6,7,8-HxCDF	-	2.38		-					
2,3,4,6,7,8-HxCDF	-	2.62		-					
1,2,3,7,8,9-HxCDF	-	3.07		-	Total Tetra-Furans	-	1.97		0
1,2,3,4,6,7,8-HpCDF	-	2.41		-	Total Penta-Furans	-	3.61		0
1,2,3,4,7,8,9-HpCDF	-	3.83		-	Total Hexa-Furans	-	3.07		0
OCDF	-	8.88		-	Total Hepta-Furans	-	3.83		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	76.2	25.0 - 164	
13C-1,2,3,7,8-PeCDD	69.8	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	70.6	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	87.5	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	72.8	23.0 - 140	
13C-OCDD	65.1	17.0 - 157	
13C-2,3,7,8-TCDF	73.6	24.0 - 169	
13C-1,2,3,7,8-PeCDF	63.9	24.0 - 185	
13C-2,3,4,7,8-PeCDF	69.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	72.3	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	84.9	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	80.2	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	66.3	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	81.0	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	70.0	26.0 - 138	
13C-OCDF	64.6	17.0 - 157	

Clean-up Surrogate			
37Cl-2,3,7,8-TCDD	81.1	35.0 - 197	

Analyst: _____
Date: 4/6/06

Reviewed By: JAN
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-001-OPR
Client ID: OPR
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: ng/ml

Acquired: 04-05-2006
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	10.5	6.70 - 15.8
1,2,3,7,8-PeCDD	51.7	35.0 - 71.0
1,2,3,4,7,8-HxCDD	53.1	35.0 - 82.0
1,2,3,6,7,8-HxCDD	53.2	38.0 - 67.0
1,2,3,7,8,9-HxCDD	52.1	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	54.4	35.0 - 70.0
OCDD	105	78.0 - 144
2,3,7,8-TCDF	9.16	7.50 - 15.8
1,2,3 7,8-PeCDF	47.4	40.0 - 67.0
2,3,4 7,8-PeCDF	49.5	34.0 - 80.0
1,2,3,4 7,8-HxCDF	51.8	36.0 - 67.0
1,2,3,6 7,8-HxCDF	55.0	42.0 - 65.0
2,3,4,6 7,8-HxCDF	53.1	35.0 - 78.0
1,2,3,7 8,9-HxCDF	52.5	39.0 - 65.0
1,2,3,4,6 7,8-HpCDF	52.1	41.0 - 61.0
1,2,3,4,7 8,9-HpCDF	52.5	39.0 - 69.0
OCDF	107	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	98.4	20.0 - 175
13C-1,2,3 7,8-PeCDD	85.2	21.0 - 227
13C-1,2,3,4 7,8-HxCDD	83.1	21.0 - 193
13C-1,2,3,6 7,8-HxCDD	103	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	80.3	26.0 - 166
13C-OCDD	79.6	13.0 - 198
13C-2,3,7,8-TCDF	86.5	22.0 - 152
13C-1,2,3,7,8-PeCDF	77.4	21.0 - 192
13C-2,3,4,7,8-PeCDF	82.7	13.0 - 328
13C-1,2,3,4 7,8-HxCDF	82.1	19.0 - 202
13C-1,2,3,6 7,8-HxCDF	99.7	21.0 - 159
13C-2,3,4,6 7,8-HxCDF	94.9	22.0 - 176
13C-1,2,3,7 8,9-HxCDF	76.2	17.0 - 205
13C-1,2,3,4,6 7,8-HpCDF	92.8	21.0 - 158
13C-1,2,3,4,7 8,9-HpCDF	76.9	20.0 - 186
13C-OCDF	79.2	13.0 - 198

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	107	31.0 - 191

Analyst: _____
Date: 4/6/06

Reviewed By: DN
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-001-SA
Client ID: A603727-01
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.949 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.00117

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.75		-					
1,2,3,7,8-PeCDD	-	1.66		-					
1,2,3,4,7,8-HxCDD	-	3.92		-					
1,2,3,6,7,8-HxCDD	-	4.06		-	Total Tetra-Dioxins	-	1.75		0
1,2,3,7,8,9-HxCDD	-	5.06		-	Total Penta-Dioxins	-	1.66		0
1,2,3,4,6,7,8-HpCDD	-	3.64		-	Total Hexa-Dioxins	-	5.06		0
OCDD	11.7	-	J	0.00117	Total Hepta-Dioxins	-	3.64		0
2,3,7,8-TCDF	-	1.48		-					
1,2,3,7,8-PeCDF	-	2.48		-					
2,3,4,7,8-PeCDF	-	2.48		-					
1,2,3,4,7,8-HxCDF	-	1.15		-					
1,2,3,6,7,8-HxCDF	-	1.29		-					
2,3,4,6,7,8-HxCDF	-	1.35		-					
1,2,3,7,8,9-HxCDF	-	1.50		-	Total Tetra-Furans	-	1.48		0
1,2,3,4,6,7,8-HpCDF	-	1.28		-	Total Penta-Furans	-	2.50		0
1,2,3,4,7,8,9-HpCDF	-	2.20		-	Total Hexa-Furans	-	1.50		0
OCDF	-	5.58		-	Total Hepta-Furans	-	2.20		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	88.3	25.0 - 164	
13C-1,2,3,7,8-PeCDD	77.7	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	80.5	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	95.0	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	79.2	23.0 - 140	
13C-OCDD	72.5	17.0 - 157	
13C-2,3,7,8-TCDF	88.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	82.7	24.0 - 185	
13C-2,3,4,7,8-PeCDF	79.6	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	78.1	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	93.7	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	92.7	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	73.8	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	88.0	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	72.1	26.0 - 138	
13C-OCDF	71.1	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	93.6	35.0 - 197	

Analyst: _____
Date: 4/6/06

Reviewed By: DN
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-002-SA
Client ID: A603727-02
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.946 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2 3,7,8-TCDD	-	0.891		-					
1,2,3,7,8-PeCDD	-	1.80		-					
1,2,3,4,7,8-HxCDD	-	3.57		-					
1,2,3,6,7,8-HxCDD	-	3.69		-	Total Tetra-Dioxins	-	0.891		0
1,2,3,7,8,9-HxCDD	-	4.70		-	Total Penta-Dioxins	-	1.80		0
1,2,3,4,6,7,8-HpCDD	-	4.99		-	Total Hexa-Dioxins	-	4.70		0
OCDD	-	7.44		-	Total Hepta-Dioxins	-	4.99		0
2,3,7,8-TCDF	-	1.52		-					
1,2,3,7,8-PeCDF	-	2.05		-					
2,3,4,7,8-PeCDF	-	2.05		-					
1,2,3,4,7,8-HxCDF	-	1.10		-					
1,2,3,6,7,8-HxCDF	-	1.17		-					
2,3,4,6,7,8-HxCDF	-	1.30		-					
1,2,3,7,8,9-HxCDF	-	1.38		-	Total Tetra-Furans	-	1.52		0
1,2,3,4,6,7,8-HpCDF	-	0.729		-	Total Penta-Furans	-	2.07		0
1,2,3,4,7,8,9-HpCDF	-	1.21		-	Total Hexa-Furans	-	1.38		0
OCDF	-	4.62		-	Total Hepta-Furans	-	1.21		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	88.0	25.0 - 164	
13C-1,2,3,7,8-PeCDD	77.5	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	81.4	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	98.3	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	81.1	23.0 - 140	
13C-OCDD	78.7	17.0 - 157	
13C-2,3,7,8-TCDF	85.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	76.5	24.0 - 185	
13C-2,3,4,7,8-PeCDF	77.7	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	83.3	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	93.6	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	95.6	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	75.7	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	88.9	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	75.5	26.0 - 138	
13C-OCDF	75.1	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	98.1	35.0 - 197	

Analyst: _____
Date: 4/6/06

Reviewed By: DN
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-003-SA
Client ID: A603727-03
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.915 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.00235

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.56		-					
1,2,3,7,8-PeCDD	-	2.23		-					
1,2,3,4,7,8-HxCDD	-	4.45		-					
1,2,3,6,7,8-HxCDD	-	4.39		-	Total Tetra-Dioxins	-	1.56		0
1,2,3,7,8,9-HxCDD	-	5.37		-	Total Penta-Dioxins	-	2.23		0
1,2,3,4,6,7,8-HpCDD	-	3.77		-	Total Hexa-Dioxins	-	5.37		0
OCDD	23.5	-	J	0.00235	Total Hepta-Dioxins	-	3.77		0
2,3,7,8-TCDF	-	1.41		-					
1,2,3,7,8-PeCDF	-	1.99		-					
2,3,4,7,8-PeCDF	-	1.95		-					
1,2,3,4,7,8-HxCDF	-	1.08		-					
1,2,3,6,7,8-HxCDF	-	1.18		-					
2,3,4,6,7,8-HxCDF	-	1.28		-					
1,2,3,7,8,9-HxCDF	-	1.51		-	Total Tetra-Furans	-	1.41		0
1,2,3,4,6,7,8-HpCDF	-	2.14		-	Total Penta-Furans	-	1.99		0
1,2,3,4,7,8,9-HpCDF	-	4.14		-	Total Hexa-Furans	-	1.51		0
OCDF	-	8.13		-	Total Hepta-Furans	-	4.14		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	83.2	25.0 - 164	
13C-1,2,3,7,8-PeCDD	72.2	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	78.4	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	89.3	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	66.1	23.0 - 140	
13C-OCDD	58.2	17.0 - 157	
13C-2,3,7,8-TCDF	78.0	24.0 - 169	
13C-1,2,3,7,8-PeCDF	70.6	24.0 - 185	
13C-2,3,4,7,8-PeCDF	70.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	82.0	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	90.9	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	87.3	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	72.2	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	80.0	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	63.0	26.0 - 138	
13C-OCDF	56.6	17.0 - 157	
Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	90.3	35.0 - 197	

Analyst: _____
Date: 4/6/06

Reviewed By: DPV
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-004-SA
Client ID: A603727-04
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.967 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.950

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.33		-					
1,2,3,7,8-PeCDD	-	2.64		-					
1,2,3,4,7,8-HxCDD	-	4.30		-					
1,2,3,6,7,8-HxCDD	-	4.52		-	Total Tetra-Dioxins	-	1.33		0
1,2,3,7,8,9-HxCDD	-	5.65		-	Total Penta-Dioxins	-	2.64		0
1,2,3,4,6,7,8-HpCDD	51.9	-		0.519	Total Hexa-Dioxins	23.7	-	J	2
OCDD	553	-		0.0553	Total Hepta-Dioxins	109	-		2
2,3,7,8-TCDF	-	1.69		-					
1,2,3,7,8-PeCDF	-	4.19		-					
2,3,4,7,8-PeCDF	-	4.01		-					
1,2,3,4,7,8-HxCDF	-	2.05		-					
1,2,3,6,7,8-HxCDF	-	2.19		-					
2,3,4,6,7,8-HxCDF	-	2.47		-					
1,2,3,7,8,9-HxCDF	-	3.01		-	Total Tetra-Furans	-	1.69		0
1,2,3,4,6,7,8-HpCDF	36.3	-		0.363	Total Penta-Furans	-	4.19		0
1,2,3,4,7,8,9-HpCDF	-	3.89		-	Total Hexa-Furans	43.5	-		2
OCDF	124	-		0.0124	Total Hepta-Furans	131	-		2

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	76.1	25.0 - 164	
13C-1,2,3,7,8-PeCDD	72.4	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	81.8	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	97.0	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	73.7	23.0 - 140	
13C-OCDD	58.9	17.0 - 157	
13C-2,3,7,8-TCDF	79.4	24.0 - 169	
13C-1,2,3,7,8-PeCDF	71.1	24.0 - 185	
13C-2,3,4,7,8-PeCDF	74.2	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	102	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	116	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	108	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	84.1	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	98.1	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	76.9	26.0 - 138	
13C-OCDF	65.4	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	89.5	35.0 - 197

Analyst: _____
Date: 4/6/06

Reviewed By: DPJ
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-004-MS/MSD
Client ID: A603727-04
Matrix: Aqueous

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Sample Amount: 0.967 L
MS Amount: 0.495 L
MSD Amount: 0.474 L

ICal: PCDDFAL3-1-12-06
Batch No: X0824
Units: pg/L

MS Acquired: 2006-04-06
MSD Acquired: 2006-04-06
GC Column: DB5

Compound	Amount Spiked (pg)	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	505	514	2.43	
1,2,3,7,8-PeCDD	1000	-	2440	2530	0.830	
1,2,3,4,7,8-HxCDD	1000	-	2370	2480	0.851	
1,2,3,6,7,8-HxCDD	1000	-	2410	2460	1.69	
1,2,3,7,8,9-HxCDD	1000	-	2410	2380	5.17	
1,2,3,4,6,7,8-HpCDD	1000	51.9	2440	2490	2.62	
OCDD	2000	553	5080	5250	1.02	
2,3,7,8-TCDF	200	-	465	471	3.09	
1,2,3,7,8-PeCDF	1000	-	2300	2390	0.881	
2,3,4,7,8-PeCDF	1000	-	2330	2380	1.75	
1,2,3,4,7,8-HxCDF	1000	-	2290	2420	1.75	
1,2,3,6,7,8-HxCDF	1000	-	2590	2510	7.29	
2,3,4,6,7,8-HxCDF	1000	-	2320	2430	0.00	
1,2,3,7,8,9-HxCDF	1000	-	2260	2450	3.51	
1,2,3,4,6,7,8-HpCDF	1000	36.3	2210	2340	1.88	
1,2,3,4,7,8,9-HpCDF	1000	-	2140	2260	0.939	
OCDF	2000	124	4200	4670	6.42	

Internal Standards		% Rec	% Rec	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	2000	76.1	79.6	77.0	25.0 - 164	
13C-1,2,3,7,8-PeCDD	2000	72.4	78.0	85.3	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	2000	81.8	91.0	76.7	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	2000	97.0	105	90.8	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	2000	73.7	77.2	65.9	23.0 - 140	
13C-OCDD	4000	58.9	69.6	60.0	17.0 - 157	
13C-2,3,7,8-TCDF	2000	79.4	90.9	75.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	2000	71.1	79.4	74.3	24.0 - 185	
13C-2,3,4,7,8-PeCDF	2000	74.2	83.6	79.1	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	2000	102	114	91.4	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	2000	116	116	103	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	2000	108	117	94.6	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	2000	84.1	98.8	76.8	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	2000	98.1	108	88.6	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	2000	76.9	88.0	70.4	26.0 - 138	
13C-OCDF	4000	65.4	81.3	65.0	17.0 - 157	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	89.5	93.7	89.2	35.0 - 197	

Analyst: _____
Date: 4/6/06

Reviewed By: DN
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-005-SA
Client ID: A603727-05
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.967 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.548

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2 3,7,8-TCDD	-	1.32		-					
1,2,3,7,8-PeCDD	-	2.23		-					
1,2,3,4,7,8-HxCDD	-	3.69		-					
1,2,3,6,7,8-HxCDD	-	3.84		-	Total Tetra-Dioxins	-	1.32		0
1,2,3,7,8,9-HxCDD	-	4.70		-	Total Penta-Dioxins	-	2.23		0
1,2,3,4,6,7,8-HpCDD	35.9	-		0.359	Total Hexa-Dioxins	17.8	-	J	2
OCDD	347	-		0.0347	Total Hepta-Dioxins	82.4	-		2
2,3,7,8-TCDF	-	1.00		-					
1,2,3,7,8-PeCDF	-	1.87		-					
2,3,4,7,8-PeCDF	-	1.79		-					
1,2,3,4,7,8-HxCDF	-	1.57		-					
1,2,3,6,7,8-HxCDF	-	1.79		-					
2,3,4,6,7,8-HxCDF	-	1.94		-					
1,2,3,7,8,9-HxCDF	-	2.20		-	Total Tetra-Furans	-	1.00		0
1,2,3,4,6,7,8-HpCDF	15.0	-	J	0.150	Total Penta-Furans	6.16	-	J	1
1,2,3,4,7,8,9-HpCDF	-	2.41		-	Total Hexa-Furans	27.3	-		3
OCDF	47.3	-	J	0.00473	Total Hepta-Furans	62.2	-		2

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	87.1	25.0 - 164	
13C-1,2,3,7,8-PeCDD	78.3	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	85.6	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	96.2	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	72.6	23.0 - 140	
13C-OCDD	65.0	17.0 - 157	
13C-2,3,7,8-TCDF	85.9	24.0 - 169	
13C-1,2,3,7,8-PeCDF	75.8	24.0 - 185	
13C-2,3,4,7,8-PeCDF	79.8	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	93.4	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	98.7	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	92.9	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	77.1	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	89.9	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	71.3	26.0 - 138	
13C-OCDF	65.4	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	104	35.0 - 197	

Analyst: _____
Date: 4/6/06

Reviewed By: DN
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-006-SA
Client ID: A603727-06
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.960 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.56		-					
1,2,3 7,8-PeCDD	-	2.04		-					
1,2,3,4 7,8-HxCDD	-	3.38		-					
1,2,3,6 7,8-HxCDD	-	3.43		-	Total Tetra-Dioxins	-	1.56		0
1,2,3,7 8,9-HxCDD	-	4.30		-	Total Penta-Dioxins	-	2.04		0
1,2,3,4,6 7,8-HpCDD	-	2.98		-	Total Hexa-Dioxins	-	4.30		0
OCDD	-	9.73		-	Total Hepta-Dioxins	-	2.98		0
2,3,7,8-TCDF	-	1.06		-					
1,2,3,7,8-PeCDF	-	1.72		-					
2,3,4,7,8-PeCDF	-	1.80		-					
1,2,3,4,7,8-HxCDF	-	0.841		-					
1,2,3,6,7,8-HxCDF	-	0.942		-					
2,3,4,6,7,8-HxCDF	-	1.00		-					
1,2,3,7,8,9-HxCDF	-	1.07		-	Total Tetra-Furans	-	1.06		0
1,2,3,4,6,7,8-HpCDF	-	1.38		-	Total Penta-Furans	-	1.80		0
1,2,3,4,7,8,9-HpCDF	-	2.30		-	Total Hexa-Furans	-	1.07		0
OCDF	-	5.03		-	Total Hepta-Furans	-	2.30		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	88.7	25.0 - 164	
13C-1,2,3 7,8-PeCDD	80.7	25.0 - 181	
13C-1,2,3,4 7,8-HxCDD	82.4	32.0 - 141	
13C-1,2,3,6 7,8-HxCDD	98.3	28.0 - 130	
13C-1,2,3,4,6 7,8-HpCDD	75.1	23.0 - 140	
13C-OCDD	69.7	17.0 - 157	
13C-2,3,7,8-TCDF	83.6	24.0 - 169	
13C-1,2,3,7,8-PeCDF	77.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	72.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	89.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	101	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	96.8	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	80.7	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	93.3	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	78.7	26.0 - 138	
13C-OCDF	68.8	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	107	35.0 - 197

Analyst: _____
Date: 4/6/06

Reviewed By: DRJ
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-007-SA
Client ID: A603727-07
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.968 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 79.0

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.47		-					
1,2,3,7,8-PeCDD	4.83	-	J	4.83					
1,2,3,4,7,8-HxCDD	-	9.85		-					
1,2,3,6,7,8-HxCDD	138	-		13.8	Total Tetra-Dioxins	34.9	-		5
1,2,3,7,8,9-HxCDD	20.1	-	J	2.01	Total Penta-Dioxins	48.2	-		3
1,2,3,4,6,7,8-HpCDD	3770	-		37.7	Total Hexa-Dioxins	699	-		6
OCDD	45300	-		4.53	Total Hepta-Dioxins	7570	-		2
2,3,7,8-TCDF	-	1.33		-					
1,2,3,7,8-PeCDF	-	4.70		-					
2,3,4,7,8-PeCDF	-	4.57		-					
1,2,3,4,7,8-HxCDF	20.4	-	J	2.04					
1,2,3,6,7,8-HxCDF	-	3.93		-					
2,3,4,6,7,8-HxCDF	16.9	-	J	1.69					
1,2,3,7,8,9-HxCDF	-	4.95		-	Total Tetra-Furans	30.5	-		4
1,2,3,4,6,7,8-HpCDF	1090	-		10.9	Total Penta-Furans	122	-		5
1,2,3,4,7,8,9-HpCDF	105	-		1.05	Total Hexa-Furans	1310	-		7
OCDF	4910	-		0.491	Total Hepta-Furans	5410	-		3

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	85.8	25.0 - 164	
13C-1,2,3,7,8-PeCDD	93.2	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	91.1	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	103	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	85.4	23.0 - 140	
13C-OCDD	97.5	17.0 - 157	
13C-2,3,7,8-TCDF	89.1	24.0 - 169	
13C-1,2,3,7,8-PeCDF	91.5	24.0 - 185	
13C-2,3,4,7,8-PeCDF	91.6	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	103	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	113	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	106	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	87.6	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	103	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	84.1	26.0 - 138	
13C-OCDF	89.4	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	104	35.0 - 197

Analyst: _____
Date: 4/6/06

Reviewed By: BN
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-008-SA
Client ID: A603727-08
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.953 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.353

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.45		-					
1,2,3,7,8-PeCDD	-	3.70		-					
1,2,3,4,7,8-HxCDD	-	5.73		-					
1,2,3,6,7,8-HxCDD	-	5.40		-	Total Tetra-Dioxins	-	1.45		0
1,2,3,7,8,9-HxCDD	-	6.54		-	Total Penta-Dioxins	-	3.70		0
1,2,3,4,6,7,8-HpCDD	24.1	-	J	0.241	Total Hexa-Dioxins	-	6.54		0
OCDD	314	-		0.0314	Total Hepta-Dioxins	45.2	-		2
2,3,7,8-TCDF	-	1.35		-					
1,2,3,7,8-PeCDF	-	1.97		-					
2,3,4,7,8-PeCDF	-	2.05		-					
1,2,3,4,7,8-HxCDF	-	1.09		-					
1,2,3,6,7,8-HxCDF	-	1.11		-					
2,3,4,6,7,8-HxCDF	-	1.16		-					
1,2,3,7,8,9-HxCDF	-	1.27		-	Total Tetra-Furans	-	1.35		0
1,2,3,4,6,7,8-HpCDF	7.84	-	J	0.0784	Total Penta-Furans	-	2.05		0
1,2,3,4,7,8,9-HpCDF	-	1.94		-	Total Hexa-Furans	5.86	-	J	1
OCDF	23.0	-	J	0.00230	Total Hepta-Furans	32.1	-		2

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	94.6	25.0 - 164	
13C-1,2,3,7,8-PeCDD	86.5	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	93.6	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	103	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	79.5	23.0 - 140	
13C-OCDD	72.6	17.0 - 157	
13C-2,3,7,8-TCDF	92.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	84.3	24.0 - 185	
13C-2,3,4,7,8-PeCDF	82.7	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	96.4	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	111	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	98.6	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	101	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	77.0	26.0 - 138	
13C-OCDF	71.8	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	106	35.0 - 197

Analyst: _____
Date: 4/6/06

Reviewed By: DN
Date: 4/6/06

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 3781-009-SA
Client ID: A603727-09
Matrix: Aqueous
Batch No: X0824

Date Extracted: 04-03-2006
Date Received: 03-29-2006
Amount: 0.962 L

ICal: PCDDFAL3-1-12-06
GC Column: DB5
Units: pg/L

Acquired: 04-05-2006
WHO TEQ: 0.235

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.68		-					
1,2,3,7,8-PeCDD	-	3.45		-					
1,2,3,4,7,8-HxCDD	-	6.38		-					
1,2,3,6,7,8-HxCDD	-	6.11		-	Total Tetra-Dioxins	-	1.68		0
1,2,3,7,8,9-HxCDD	-	7.43		-	Total Penta-Dioxins	-	3.45		0
1,2,3,4,6,7,8-HpCDD	16.8	-	J	0.168	Total Hexa-Dioxins	-	7.43		0
OCDD	326	-		0.0326	Total Hepta-Dioxins	27.9	-		2
2,3,7,8-TCDF	-	1.14		-					
1,2,3,7,8-PeCDF	-	4.02		-					
2,3,4,7,8-PeCDF	-	4.17		-					
1,2,3,4,7,8-HxCDF	-	1.57		-					
1,2,3,6,7,8-HxCDF	-	1.77		-					
2,3,4,6,7,8-HxCDF	-	1.87		-					
1,2,3,7,8,9-HxCDF	-	1.98		-	Total Tetra-Furans	12.2	-		2
1,2,3,4,6,7,8-HpCDF	3.24	-	J	0.0324	Total Penta-Furans	-	4.22		0
1,2,3,4,7,8,9-HpCDF	-	2.27		-	Total Hexa-Furans	-	4.99		0
OCDF	15.7	-	J	0.00157	Total Hepta-Furans	15.0	-	J	2

Internal Standards	% Rec	QC Limits	Qual
13C-2 3,7,8-TCDD	82.6	25.0 - 164	
13C-1,2,3,7,8-PeCDD	76.3	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	78.9	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	89.6	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	71.5	23.0 - 140	
13C-OCDD	56.5	17.0 - 157	
13C-2,3,7,8-TCDF	87.1	24.0 - 169	
13C-1,2,3,7,8-PeCDF	77.3	24.0 - 185	
13C-2,3,4,7,8-PeCDF	78.0	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	90.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	103	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	99.8	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	89.8	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	92.6	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	70.5	26.0 - 138	
13C-OCDF	61.4	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	99.1	35.0 - 197

Analyst: _____
Date: 4/6/06

Reviewed By: DN
Date: 4/6/06

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

A603727

3781
4°

SENDING LABORATORY:	**RECEIVING LABORATORY:**
Alpha Analytical Laboratories, Inc.	Frontier Analytical Laboratory
208 Mason St.	5172 Hillsdale Circle
Ukiah, CA 95482	El Dorado, CA 95762
Phone: (707)468-0401	Phone :916-934-0900
Fax: (707)468-5267	Fax: 916-934-0999
Project Manager: Sheri L. Speaks	**Terms: Net 30**

Analysis	Due	Expires	Comments
A603727-01 MW-01-200603 [Water] Sampled 03/23/06 12:25 Pacific ✓			
Dioxins Full List	04/07/06 12:00	03/23/07 12:25	
Containers Supplied: 1 L amber X2			
A603727-02 MW-02-200603 [Water] Sampled 03/23/06 14:11 Pacific ✓			
Dioxins Full List	04/07/06 12:00	03/23/07 14:11	
Containers Supplied: 1 L amber X2			
A603727-03 MW-03-200603 [Water] Sampled 03/23/06 15:05 Pacific ✓			
Dioxins Full List	04/07/06 12:00	03/23/07 15:05	
Containers Supplied: 1 L amber X2			
A603727-04 MW-05-200603 [Water] Sampled 03/24/06 08:04 Pacific ✓			
Dioxins Full List	04/07/06 12:00	03/24/07 08:04	
Containers Supplied: 1 L amber X2			
A603727-05 MW-07-200603 [Water] Sampled 03/24/06 12:20 Pacific ✓			
Dioxins Full List	04/07/06 12:00	03/24/07 12:20	
Containers Supplied: 1 L amber X2			
A603727-06 MW-14-200603 [Water] Sampled 03/24/06 11:24 Pacific ✓			
Dioxins Full List	04/07/06 12:00	03/24/07 11:24	
Containers Supplied: 1 L amber X2			

Released By	Date	Received By	Date
Sheri Speaks	3-28-06	[signature]	3/29/06 @ 0930
Released By	Date	Received By	Date

Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **3781**

Client:	Alpha Analytical Laboratories, Inc.
Client Project ID:	A603727
Date Received:	03/29/2006
Time Received:	09:30 am
Received By:	NM
Logged In By:	GN
# of Samples Received:	9
Duplicates:	9
Storage Location:	R1

Method of Delivery:	California Overnight
Tracking Number:	C10387000000600
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	4
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	Yes
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	03/23/2007
Adequate Sample Volume	Yes
Anomalies or additional comments:	

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EUR 10010

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: SPI Arcata | DATE: 3/24/06 | PAGE 1 OF 1

PROJECT NUMBER: 0329 task 23 | LABORATORY NAME: Alpha/Frontier | CLIENT INFORMATION: SPI Arcata | REPORTING REQUIREMENTS:

RESULTS TO: Mike Keim | LABORATORY ADDRESS: Alpha - Ukiah; Frontier - El Dorado Hills

TURNAROUND TIME: std | LABORATORY CONTACT: Sheri @ Alpha

SAMPLE SHIPMENT METHOD: courier | LABORATORY PHONE NUMBER: 707-468-0401 | GEOTRACKER REQUIRED: (YES) NO

SITE SPECIFIC GLOBAL ID NO.: T0602393344

SAMPLERS (SIGNATURE): Matt Hillyard

ANALYSES: Dioxin/Furan 8290/1613

DATE	TIME	SAMPLE NUMBER		CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
3/23/06	1225	MW-01-200603	X	1-Liter Amber	W			X		2	
3/23	1411	MW-02-200603	X							2	
3/23	1507	MW-03-200603	X							2	
3/24	804	MW-05-200603	X							2	
3/24	1220	MW-07-200603	X							2	
3/23	1124	MW-14-200603	X							2	
3/24	926	MW-20-200603	X							2	
3/24	1052	MW-21-200603	X							2	
3/24		MW-A-200603	X							2	

A1603727-1 2 3 4 5 6 7 8 9

TOTAL NUMBER OF CONTAINERS: 18

SAMPLING COMMENTS:

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: Matt Hillyard	3/24/06	1300	SIGNATURE:	3/24/06	1310
PRINTED NAME: Matt Hillyard			PRINTED NAME:		
COMPANY: Geomatrix			COMPANY:		
SIGNATURE:			SIGNATURE: Sheri Speaks		
PRINTED NAME:	3/24/06	1620	PRINTED NAME: Sheri Speaks	3/24/06	16:20
COMPANY:			COMPANY: Alpha		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

525 Second Street, Suite 203
Eureka, California 95501-0488
Tel 707.444.7800 Fax 707.444.7848

Geomatrix

APPENDIX C

Laboratory Data Quality Review

APPENDIX C

LABORATORY DATA QUALITY REVIEW

Geomatrix reviewed quality assurance and quality control (QA/QC) procedures to assess the quality of the analytical results with respect to precision, accuracy, and completeness. Data quality was reviewed using U.S. Environmental Protection Agency *National Functional Guidelines for Organic Data Review* (U.S. EPA, 1999), *National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (U.S. EPA, 2002), and *National Functional Guidelines for Inorganic Data Review* (U.S. EPA, 2004).

PRECISION

Geomatrix evaluated data precision by comparing analytical results for the following:

- primary and (blind) duplicate field samples
- matrix spikes (MS) and matrix spike duplicates (MSD) concentrations
- laboratory control samples (LCS) and laboratory control sample duplicates (LCSD)

We compared the concentrations detected in the primary or spiked samples with the respective concentrations in the duplicate or duplicate spiked samples. We then calculated relative percent differences (RPDs) using the following equation:

$$RPD = \frac{[S - D]}{(S + D)/2} \times 100$$

Where,

S = Sample concentration
D = Duplicate sample concentration

RPDs for primary and duplicate field samples are included in Table C-1. RPDs are only calculated when primary and duplicate sample concentrations are greater than or equal to two times the laboratory reporting limits. In cases where the concentration in either the primary or duplicate sample, or both, is less than two times the reporting limit, the absolute difference between the primary and duplicate sample concentration is calculated. The RPDs for MS/MSD and LCS/LCSD analyses are reported in the laboratory analytical reports, included in Appendix B.

The RPDs between the primary (MW-21) and the duplicate (MW-A) field samples for the primary chemical of concern (PCP) and the majority of the other constituents (see Table C-1) were within acceptance criteria. The RPDs between the primary (MW-21) and the duplicate (MW-A) field samples for hepta-chlorinated dioxin congeners, hepta-chlorinated furan congeners, octa-chlorinated furan congeners, and total TEQ were not within acceptance criteria. In addition, the detections of these compounds were flagged by the analytical laboratory as estimated because they were detected at concentrations below the laboratory's calibration range. This variability in the concentrations of dioxin and furan congeners has been observed previously in field duplicates collected at this site and other sites. Because the detected concentrations are similar to historical detections, they are considered acceptable and representative of site conditions.

ACCURACY

Geomatrix assessed data accuracy by evaluating holding times required by analytical methods, sample preservation, laboratory method blank results, recovery of laboratory surrogates, MS/MSD results, and LCS/LCSD results. The results of our evaluation are summarized below.

- **Holding times.** Samples were analyzed within the holding time for each analytical method.
- **Preservation.** Samples were collected in laboratory-supplied containers with preservatives, if applicable. Samples were stored and transported to analytical laboratories in chilled coolers.
- **Method blanks.** No detections were observed in any of the method blanks analyzed by the laboratory.
- **Surrogate recoveries.** Laboratory surrogates were recovered at concentrations within acceptable ranges except when dilution prevented meaningful surrogate recoveries for the 8270C SIM method.
- **MS/MSD analysis.** RPDs were acceptable.
- **LCS/LCSD analysis.** RPDs were acceptable.

COMPLETENESS

Laboratory completeness is a measure of the percent of valid measurements obtained from all the measurements taken in the project. Based on our laboratory data quality review, the data contained in this report are considered complete.

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TABLE C-1

RELATIVE PERCENT DIFFERENCES
BETWEEN DUPLICATE SAMPLES
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Samples collected on March 24, 2006

Constituent	Reporting Limit [1]	Sample Concentration MW-21	Duplicate Sample Concentration MW-A	Relative Percent Difference [2]
Chlorinated Phenols by Canadian Pulp Method (reported in micrograms per liter [µg/L]) [3]				
PCP	1000	13,000	14,000	7.4%
2,3,4,5-TeCP	1.0	8.9	8.8	1.1%
2,3,4,6-TeCP	10	180	190	5.4%
2,3,5,6-TeCP	10	41	41	0.0%
2,4,6-TCP	1.0	1.5	1.4	0.1
Chlorinated Phenols by EPA Method 8270 SIM (reported in µg/L) [4]				
PCP	1	7,700	8,000	3.8%
2,3,4,5-TeCP	1	17	20	16.2%
2,3,4,6-TeCP	1	39	44	12.0%
2,3,5,6-TeCP	1	170	180	5.7%
3,4,5-TCP	1	260	270	3.8%
2,4,6-TCP	1	1.1	1.2	0.1
3,4-DCP	1	420	450	6.9%
3,5-DCP	1	17	19	11.1%
2,4,5-TCP	1	9.3	9.0	3.3%
3 + 4-Chlorophenol	2	650	700	7.4%
2,3-DCP	1	2.1	2.2	4.7%
Phenol	1	1.8	1.9	0.1
Dioxins & Furans by EPA Method 1613 (reported in picograms per liter [pg/L]) [5]				
1,2,3,4,6,7,8-HpCDD	--	24.1	16.8	35.7%
OCDD	--	314	326	3.8%
1,2,3,4,6,7,8-HpCDF	--	7.8	3.24	83.0%
OCDF	--	23.0	15.7	37.7%
TEQ	--	0.353	0.235	40.1%
Metals by EPA Method 200.7 (reported in milligrams per liter [mg/L]) [3]				
Calcium	1.0	28	27	3.6%
Magnesium	1.0	47	47	0.0%
Alkalinity by SM 2320B (reported in mg/L) [3]				
Total Alkalinity as $CaCO_3$	5.0	360	360	0.0%
Total Organic Carbon by EPA Method 415.1 (reported in mg/L) [3]				
Total Organic Carbon	1.00	17.7	18.1	2.2%
Anions by EPA Method 300.0 (reported in mg/L) [3]				
Chloride	5.0	84	84	0.0%

Samples collected on March 24, 2006

Constituent	Reporting Limit [1]	Sample Concentration MW-21	Duplicate Sample Concentration MW-A	Relative Percent Difference [2]
Dissolved Gases by Method RSK175 (reported in mg/L) [6]				
Methane	0.00158	5.11	5.75	11.8%
Carbon Dioxide	0.165	156	150	3.9%
Dissolved Metals by EPA Method 6010B (reported in mg/L) [7]				
Manganese	0.0050	2.7	2.7	0.0%
Iron	0.20	70.0	70.0	0.0%

Notes:

1. The reporting limit is presented as the reporting limit for primary/duplicate sample for the listed constituent when the laboratory chose to use different dilutions with which to analyze the respective samples.
2. RPD calculated as ([2(S-D)]/[S+D]) x 100 where S is the sample concentration and D is the blind duplicate sample concentration. For sample concentrations less than two times the reporting limit, the absolute difference between the sample concentration and the blind duplicate sample is calculated.
3. Analyzed by Alpha Analytical Laboratory, of Ukiah, California.
4. Analyzed by Friedman & Bruya, Inc. Environmental Chemists, of Seattle, Washington.
5. Analyzed by Frontier Analytical Laboratory, of El Dorado Hills, California.
6. Analyzed by K-Prime Inc., of Santa Rosa, California.
7. Analyzed by Severn Trent Laboratories, Inc., of Pleasanton, California.

Abbreviations:

PCP = pentachlorophenol
TeCP = tetrachlorophenol
TCP = trichlorophenol
TEQ = toxicity equivalence
DCP = dichlorophenol
HpCDD = heptachlorodibenzo-p-dioxin
OCDD = octachlorodibenzo-p-dioxin
HpCDF = heptachlorodibenzofuran
OCDF = octachlorodibenzofuran